

AMERICAN BEE JOURNAL

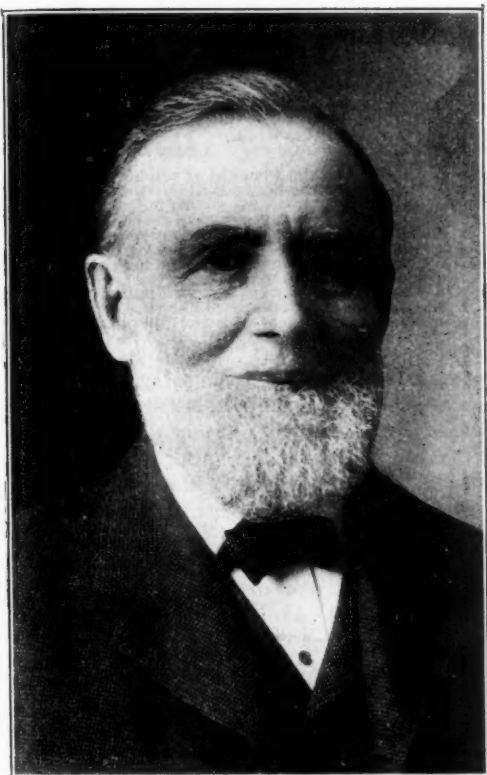
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No. 6.

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June 10

1911



Dr. C. C. MILLER, MARENGO, ILL.
The Nestor of American Bee-Keeping.

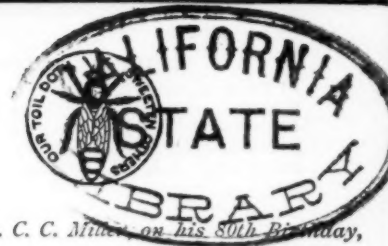


"With the chance
To get more happiness out of each day so long as
my days may last; and
With the chance
To have them last longer than in any other busi-
ness,
Why shouldn't I be a bee-keeper?"

—Dr. Miller, in *American Bee Journal*, page 33.



Where Dwells Marengo's Happy Sage.



Dedicated to Dr. C. C. Miller, on his 80th Birthday,

ADOWN THE WESTERN SLOPE

BY EUGENE SECOR.

I

The sun hangs low;
Evening is coming on:
But burnished clouds reflect a mellow glow,
Portending fairer skies anon.

II

I hear a wood-thrush sing
His evening strain—
As gentle as a summer rain.
My soul by faith takes wing
To that Home-Land
Where harp th' angelic band
In God's own fane.

III

So doth a sunny spirit
Bless, like the thrush,
That cheers from morn till twilight's hush;—
It blesses men who bend with cares that crush.
With never a soul to fear it.

IV

Not lapse of years, but carking cares
Make men grow old.
A smile, a kindly eye,
A cheery word, a soft reply,
Are worth a pot of gold.
Along the road with us one fares
With a heart so light—
A life so clean and white—
Old Father Time is mollified,
His rusty scythe hangs by his side.
We hope he will his stroke withhold
Until our friend is REALLY OLD.

Forest City, Iowa.



JUNE
1911

Calif State Library dec 11
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American Bee Journal



PUBLISHED MONTHLY BY
GEORGE W. YORK & COMPANY
117 N. Jefferson Street, Chicago, Ill.

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Objects.

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2. To protect and defend its members in their lawful rights as to keeping bees.
3. To enforce laws against the adulteration of honey.

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CHAS. MITCHELL

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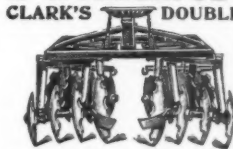
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(Entered as second-class matter July 30, 1907, at the Post-Office at Chicago, Ill., under Act of March 3, 1879.)

Published Monthly at \$1.00 a Year, by George W. York & Company, 117 North Jefferson Street,

GEORGE W. YORK, Editor.
DR. C. C. MILLER, Associate Editor.

CHICAGO, ILL., JUNE, 1911

Vol. LI---No. 6

EDITORIAL COMMENTS

National Convention at Minneapolis, Aug. 30 and 31.

We suppose that all our readers are bearing in mind the next annual meeting of the National Bee-Keepers' Association in Minneapolis, Aug. 30 and 31, 1911. It is a little early yet to know just what the honey harvest is going to be for 1911, but certainly all will hope that it will be sufficient to permit everyone to attend the next meeting of the National who desires to go. It is to be held right in one of the best honey-producing districts of the United States—where bee-keepers are accustomed to attend conventions; surely it ought to be the best attended of any meeting the National has had in many years.

There are some very important questions to be decided at this meeting, which will affect bee-keepers of the whole country in various ways. The Constitution should be thoroughly revised so as to permit the Board of Directors to take some progressive steps in the interest of the whole membership. It is to be hoped that the very best ability to be found on this continent will be present, so that such necessary action may be taken looking to the advancement of the bee-keeping industry, as shall have the unanimous vote of the membership of the National next November.

The Executive Committee—which is composed of the President, Vice-President, Secretary and Treasurer—will be glad to receive suggestions from any and all members who think they can help to put bee-keeping on a better business basis than it occupies to-day. We hope there will be no hesitation on the part of any member to send in any recommendations that he or she may feel is important.

The time of the meeting—Aug. 30 and 31—may be a little early and somewhat inconvenient for some bee-keepers, but we doubt not that a great many will be able to get away from their

work and homes for a few days at that time of the year. We hope that a large number will feel that they ought to make some sacrifice in order to be present. In the meantime, we trust that there may be such a great harvest of honey gathered that all who have the least desire to attend the Minneapolis convention will feel that they can afford to spend the necessary time and money to make the trip.

We expect to be able to announce the railroad schedule next month; and no doubt by the time of our August issue a full program of the convention will be ready for publication. Secretary Tyrrell has an opportunity now to build a fine program, and we have no doubt he will be equal to the job.

Color of Queens

Of two queens alike in all other respects, the lighter-colored one is likely to be preferred. R. Beuhne, at a meeting reported in the Australasian Bee-Keeper, gave instances in his own experiments where, in choosing the light-colored queen and keeping separate records, he proved that out of the same batch of queens the darker ones proved equal to the lighter, and longer lived.

Space Between Old Combs

In the Irish Bee Journal, Editor Digges says that according to Dr. Miller cells do not become smaller with age, the bees prolonging the cells as the septum becomes thicker, and Mr. Digges then says:

"Now in combs 30 years old, in frames with fixed supers, can the cell-walls be extended indefinitely without closing the bee-space between the combs? One-eighth inch or more leads to $\frac{1}{4}$ -inch or more off the $\frac{3}{8}$ -inch space between the combs, reducing the space to $\frac{1}{8}$ -inch or less."

Undoubtedly, as the septum increases in thickness, if there is no change in the spacing of the combs, from center

to center, the space between the combs must become smaller. But our esteemed cotemporary must have been suffering from a fit of carelessness when he did his figuring. He figures that $\frac{1}{8}$ inch added to the septum takes $\frac{1}{4}$ inch off the space between combs. There's only one septum for each space, so that $\frac{1}{8}$ inch added to the septum can take away only $\frac{1}{8}$ inch from the space. He assumes $\frac{3}{8}$ space between two new combs. That can only be if the combs are spaced $1\frac{1}{2}$ inches from center to center, which is not the usual spacing. With the usual spacing of $1\frac{3}{8}$ from center to center, the space between two new brood-combs is $\frac{1}{2}$ inch, and $\frac{1}{8}$ inch taken from that leaves $\frac{3}{8}$; so that Mr. Digges' final result is all right. Trust an Irishman to land on his feet!

Do Bees Prefer Salted Water?

This question having been asked, Herr Schachinger—the man who answers questions in Bienen-Vater—put the matter to the test. He put in one vessel pure unsalted water, and in a similar vessel by its side he put water slightly salted. Some 20 observations in the following afternoon showed the unsalted water well visited (30 to 40 bees, sometimes), while very few bees visited the salted water. At the same time the bees were thick upon the liquids coming from his pig-pen. He says he does not know whether the bees worked upon this liquid because of some elements it contained or merely because it was warm.

Stingless Bee to Be Developed!

Under this heading the following item is going the rounds of the daily press:

"The new bee-keeping bureau of the Massachusetts Agricultural College has set itself the task of developing a bee that will not sting, and that at the same time will be twice or three times as industrious as the bee of to-day."

In an editorial of half a column the Chicago Record-Herald discusses the change, and counts as one of the advantages the fact that the barefoot boy trudging his way to school need no longer fear to step upon a bee. But losses from the change will not be

American Bee Journal

lacking. "What fun will there be in picking a bee off a dandelion by its gauzy appendages if the element of danger—the ever imminent possibility of being stung—is removed? And what thrills possibly can come from hiding indifferent, plodding, stingless bees in teacher's dinner-pail?" And what chance will there be for glorying over the fact of hiving a swarm of bees in a brave and fearless manner if there is nothing to fear? And what will take the place of bee-stings for rheumatism?

The probability is that Dr. Gates and his able coadjutors will be as much surprised as any one to learn of the great changes under contemplation.

Isle of Wight Bee-Disease

This mysterious disease has no immediate interest for American bee-keepers only as they have a fellow feeling for bee-keepers everywhere, but it may have a tremendous interest for them in the future. According to a report in the *Irish Bee Journal*, there can be little doubt the disease is of an infectious nature, and from the way it has spread it is almost too much to hope that it will never reach this country. Appearing in 1904, by 1908 it had succeeded in wiping out all the bees on the Isle of Wight, and in 1909 it had crossed the narrow channel and has since been found in several counties in England and 2 counties of Scotland.

Seemingly more fatal than foul brood, it bears little resemblance to that disease, for the adult bees are the ones that suffer, while the brood remains healthy. The field-bees are the first to suffer, and generally the disease is confined to them. There is first a disinclination to work, and gradually the power of flight is lost. The colon becomes enormously extended, which might happen to any bee when not allowed to fly so as to empty its intestines. There is, however, an unusual amount of undigested pollen in the colon, there being apparently an inability to digest the pollen-grains, and the colon thus presents a bright yellow color, although sometimes dirty brown. What the microbe is that produces the disease, if a microbe it is, no one yet knows.

Let us hope it may take the disease a long time to cross the Ocean.

Color and Bees' Temper

D. M. Macdonald occupies a page of the *British Bee Journal* in trying to show that bees are no more likely to sting dark-colored objects than those that are light-colored. Perhaps it is not of great importance that the matter be settled once for all. Those who think black clothing likely to irritate bees are at liberty to wear clothing of light color, and *vice versa*.

Mr. Macdonald spoke to three clergymen on the subject, "and all declare positively and emphatically the idea is a myth, without any foundation in reality." One can not but wonder what proof they could offer that allows them to speak so "positively and emphatically." The mere fact that they have never seen any proof of special dislike for black on the part of the bees is

hardly proof that such dislike does not exist. On the other hand, what will they do with those who declare that they have known bees to sting black chickens or horses while those of light color went scot free? Says Mr. Macdonald:

"My veil is black, in common, I suppose, with the majority of these indispensable pieces of armor, worn to defend us from the wrath of the bee. Has it ever been seriously proposed by any sane bee-keeper that the colors should be changed in order that stings might be decreased?"

Mr. Macdonald is a well-informed man. In the present case he must be accused of ignorance or of lack of candor. It is easier to believe that he may be ignorant on a single point than to believe that he is lacking in candor; so it is a great pleasure to add to the stock of knowledge of one already so well equipped by telling him that the reason bee-keepers—at least bee-keepers "in this locality"—wear black veils, is because they think they can see much better with black veils, and because looking through a black veil does not injure the eyes as does looking through a white one. He may rest assured that there is one bee-keeper who, if it were not for the objections mentioned, would not only seriously propose, but would act on the proposition, to change from black to white, even at the risk of having his sanity questioned by so good a man as Mr. Macdonald.

Getting Bees Started in Sections

R. D. Bradshaw, an Idaho bee-keeper, reports in the *Bee-Keepers' Review*, that in the year 1906 he produced 34,000 pounds of comb honey; in 1907, 32,000; and in 1908 he produced 43,200 sections. When a man "does things" like that, his word is entitled to respect. So we are interested in knowing what are his views as to getting bees to start work in sections.

Plainly, not by the use of bait-sections. He says:

"I don't like bait-sections. Honey produced in them is usually inferior." Later on he says: "Give me thin top-bars in brood-frames. I would much rather have a few burr-combs than not to have the bees readily enter the supers. We must have our sections as close to the brood as possible."

Mr. Bradshaw is not the only one who objects to using bait-sections. Probably no one denies that bait-sections will start bees to work in the supers as soon as any other means, if not sooner. So the objection to using them must be something rather serious. As to how serious, some idea can be obtained by considering what Mr. Bradshaw is willing to endure for the sake of getting the start made without resort to baits.

He depends upon nearness to the brood-combs by means of thin top-bars. He admits burr-combs as a result of this; but he evidently prefers burr-combs to the greater evil of baits. He does not mention it, but there is another evil that he endures with thin top-bars. The nearness of sections to brood-combs, while favoring early start in sections, equally favors carrying dark comb from the old brood-combs to be used in sealing the sections; thus spoiling their snowy whiteness. This unless the brood-combs are new.

I don't know how thin are the top-bars in question, but for years I used top-bars $\frac{3}{8}$ -inch thick, and there was considerable sagging because of their thinness.

Clearly there must be something pretty bad about bait-sections to make one undergo increase of burr-combs, darkening of sections, and possible sagging of top-bars, for the sake of avoiding them. And yet, although I have been using bait-sections nearly as long as I have been using sections, I would regard either one of the three troubles mentioned as being greater than any trouble with bait-sections, to say nothing about taking the whole three together.

What is the objection to bait-combs? Mr. Bradshaw says, "Honey produced in them is usually inferior." I think I never heard of any other objection. Note, the honey produced in them is not *always* inferior, but *usually* inferior. One may fairly understand from that that some bait-sections are all right, and some are objectionable. So there is a difference in bait-sections after they are filled, and in that I suspect lies the secret of the whole trouble. If some of them are objectionable, I believe it is possible to have all so, and when any of them are objectionable I believe they were objectionable at the time they were given to the bees as baits.

I have no desire to plume myself unduly as to the number of bait-sections I have used, but having used them for so many years, and having always used one or more bait-sections (usually only one) to get each colony started, I think I may speak with some degree of authority, and I do not hesitate to say that I can have bait-sections filled that shall be of first quality every time. If I can tell beginners how to avoid the bad and to secure the good, I may be doing a service.

If bait-sections are to be of best quality when filled, they must be of best quality when given. Some have used baits that contained honey from the previous year, and this honey not having kept in perfect condition, the result was unsatisfactory. I know that an eminent authority says that the bees will empty out such sections, and fill them with honey. I do not think I can trust my bees to do that.

Some have left sections on the hive in the fall until a good many days after the close of the harvest, and these sections have become darkened with travel-stain and bee-glue. Then they were used for baits the next season, and of course the product would be unsatisfactory.

Do not allow sections to stay on the hive to be spoiled after the harvest closes. When taken off there will, of course, be sections in all stages of progress, from those in which the bees have just begun to draw out the foundation up to those that are entirely finished. Any of these may be used as baits, the most satisfactory being perhaps those that have been about half filled, although without any sealing. Let them be emptied of honey and thoroughly cleaned out by the bees soon after being taken off, and if these are given as baits the next year there is

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no reason why they should not turn out as nice sections as their neighbors.

After all, it is not a matter of such very great importance that these bait-sections should be as good as the best. Only one bait-section is needed for each colony, that one being given in the center of the first super given. If that one section is not of the very best quality, the loss in value will be only

about 2 cents. Better lose that 2 cents than to lose more by having a number of sections darkened by having the sections too near the brood-combs.

If one prefers, one may also extract the honey from the bait-sections, and they may be used as baits year after year. The darker they become the more attractive they seem to be to the bees. C. C. M.

MISCELLANEOUS NEWS ITEMS



Death of W. Z. Hutchinson.—Just as we were closing the forms of this number of the American Bee Journal, we received the sad news from Mrs. Hutchinson, that Mr. Hutchinson passed away at 2 p.m., Tuesday, May 30, 1911. All our readers will join with us in extending sincerest sympathy to Mrs. Hutchinson and family in their bereavement. Particulars next month.

The Treatment of Bee-Diseases is the title of Farmers' Bulletin No. 442, just issued by the Department of Agriculture, having been prepared by Dr. E. F. Phillips, In Charge of Bee-Culture. It should be in the hands of every bee-keeper, as it not only tells how easily to detect bee-diseases, but also how any bee-keeper can treat them. Address the Secretary of Agriculture, Washington, D. C., for a free copy.

A Convention and Field-Day for bee-keepers will be held at the Massachusetts Agricultural College at Amherst, Mass., June 6th and 7th. It will be the closing feature of the Short Course in Bee-Keeping, which began May 24th. A specially fine program has been arranged by Dr. Burton L. Gates, who has charge of the apicultural work at the college. The following are on the program:

A. A. Byard, Kenyon L. Butterfield, Hon. J. Lewis Ellsworth, Anna Botsford Comstock, Dr. James P. Porter, E. R. Root, Dr. James B. Paige, Arthur C. Miller, O. F. Fuller, and H. F. Cary. There will be a great time, and every bee-keeper in that part of the country who can possibly "get there" should not fail to be present.

Samples of Diseased Brood Wanted.

The United States Department of Agriculture is doing a great work in the interest of bee-keepers. In view of this, the Department should have the hearty co-operation of all who are interested in bee-keeping throughout the whole country. As all of our readers know, Dr. E. F. Phillips has charge of all the work being done by the Government along the bee-keeping line. The Department will continue the work of the investigation of bee-diseases during the present season, and is anxious to obtain samples of diseased brood for examination. If any of our readers suspect that their bees are diseased, they will not only be helping

themselves, but will also do a favor to the Department of Agriculture, if they will send samples of such suspected brood for examination. Before doing so, however, if they will write to Dr. Phillips, he will send each applicant a tin box and a frank, which will entitle them to free postage in mailing any samples they may desire to forward. Address as follows: Dr. E. F. Phillips, In Charge of Apiculture, Bureau of Entomology, United States Department of Agriculture, Washington, D. C.

The Aspinwall Non-Swarming Hive.

Something over 20 years ago, Mr. L. A. Aspinwall began the construction of a non-swarming bee-hive. He now feels that the last two seasons have demonstrated its complete success. Although the seasons were not such as to induce excessive swarming, the tests were made with the strongest colonies among those which for a series of years seemed to have the greatest tendency to swarm.

We show herewith a good picture of the Aspinwall non-swarming hive. It is

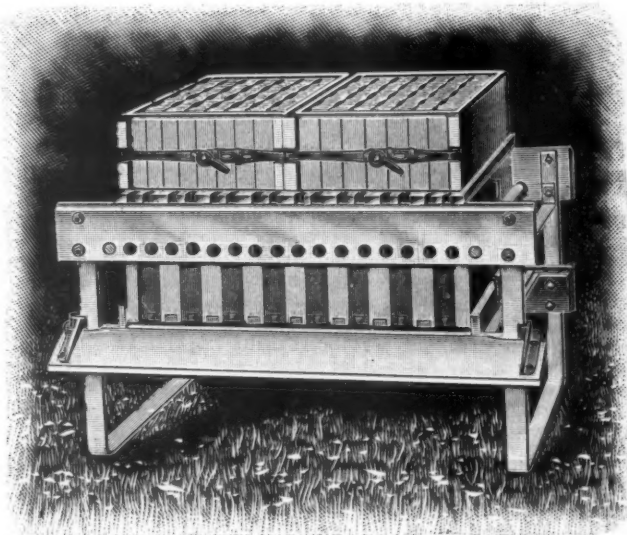
all 70 sections immediately above the brood-chamber. No separators are used in the supers, and the alignment of spaces in the supers is perfect with those between the brood-combs and slatted frames. In other words, 4 rows of sections are placed over the slatted frames as well as over the brood-frames.

We had the pleasure of an interview with Mr. Aspinwall, the inventor of this hive, at the last meeting of the Michigan State Bee-Keepers' Association, at Grand Rapids, last November, where he had on exhibition the hive shown herewith. He explained its workings before the convention, and believes that he now has something that will fulfill every requirement of the comb-honey producer.

As no separators are used in the supers, one would naturally expect a large number of bulged sections of honey. While the comb surfaces are not quite as smooth as when made by the use of separators, they are commercially all right, and can be easily put into shipping-cases. Out of 2000 sections of honey produced last season by Mr. Aspinwall, there were not more than 2 dozen that were bulged, and these were produced over weak colonies, quite late in the season.

A very strong claim made by Mr. Aspinwall is that, by the use of his hive, double the amount of honey as compared with other hives can be produced, and but one manipulation is required—which is, introducing the slatted frames; and withal the queen remains active and unhindered in her work of egg-laying.

It is the desire of Mr. Aspinwall to place a limited number of hives preferably in the hands of experienced bee-keepers. If the hive produces the same results in their hands in the various localities, as it has done under Mr.



THE ASPINWALL NON-SWARMING HIVE.

provided with slatted frames alternated with the brood-frames. This arrangement affords a very large supering surface, so that 2 supers of 35 sections each are placed side by side, making in

Aspinwall's personal management, it may be considered an unquestionable success.

Like all new inventions, many difficulties had to be overcome in order to

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place this hive on the market at a reasonable price, or one that would justify a purchase based upon the promised results. This has necessitated special machinery in its manufacture, and has involved large expense, and consequently considerable delay, as the hive has been mentioned many times in the bee-papers during the past 10 or 15 years. It is hoped that Mr. Aspinwall has now so perfected his hive that it will do all he claims for it, even in the hands of the less expert bee-keepers.

Mr. Aspinwall is a bee-keeper of something like a half century's experience, and has been prominently before the bee-keeping public for a long time. Some years ago he was president of the National Bee-Keepers' Association, and last year was the president of the Michigan State Association. His inventions in other lines have brought him a world-wide reputation, and now, if his non-swarming hive is proven an unquestioned and invariable success, he will have added another large laurel to his already very honorable accumulation. We certainly wish him and his hive all the success that he and his long years of untiring efforts so well deserve.

Spreading Hives in Center of Apiary.

—J. F. Munday has had the experience that on level ground with hives in parallel rows, the bees in the central rows do not store so much, and do not winter as well, as those in the outside rows. He says in the Australasian Bee-keeper:

I used to have about the same number of hives in each row. I had 6 rows and about 15 hives in each row, the hives being placed 8 feet apart, and the rows 10 feet apart. For the last 2 years I have had my hives in the outside rows placed much closer together, being only 3 feet apart, and the hives in the central rows placed further apart, about 15 feet. The apiary contains about the same number of hives, but they prosper considerably better, yield more honey, and the colonies in the central rows maintain their strength and stability better.

Tobacco Honey in Connecticut.—"Connecticut, strictly speaking, is not a honey-producing State," says E. H. Shattuck in Gleanings, "not over 50 colonies being profitable in one location, and 20 to 25 being much more productive. The farmers depend mostly upon tobacco, and thousands of acres are raised in Hartford county within reach of an apiary." The plants are topped when about 4 feet high, so that no blossoms are allowed, making tobacco of no value to the bees; but a great change in the method of culture is now taking place, the plants being stripped of the leaves and the blossoms being allowed to grow, and they continue from Aug. 1st till frost. As the honey is of good quality this ought to make a material difference to Connecticut bee-keepers.

Are Our Bees Losing Vitality?—Under this heading, I. Hopkins, a high authority, says in part in the Australasian Bee-keeper:

I can quite understand that there may be other factors than the grafting system of queen-rearing, as Mr. Beuhne suggests, to account for what, at least, seems well founded, that our bees are losing much of the vigor and virility they formerly possessed; but I firmly believe it is the chief factor in

the problem. I have no doubt that it is possible for the most careful breeders, who take the greatest care in their work, to rear a fair number of good queens by the process, but in my opinion it lends itself so well to the careless or slovenly man whose aim is number, without heed of quality, that it is a positive danger to the industry.

The forcing process, by which I mean queen-rearing at all times during the season is, I believe, another evil. I have no hesitation in saying, after paying very close attention to the matter, that the very best queens are those reared in the spring at the first of the swarming season. The queens, drones, and workers are then in full vigor and at their best, and it corresponds with the period when for long ages bees in a state of Nature have reared queens to form new colonies. Mr. Beuhne has very properly drawn attention to this forcing.

Bee-Diseases in the U.S.—This is Circular No. 138, the full title being "The Occurrence of Bee-Diseases in the United States" (Preliminary Report). It gives the data concerning diseases which was in the hands of the Government previous to March 1st of this year. It shows in each State just what counties have foul brood, both the American and the European brand of the disease. For instance, Illinois has 32 counties having American foul brood, and 12 more counties where it is suspected; also 29 counties where European foul brood exists, and 7 more where it is suspected. About 1800 samples of diseased brood have been examined by the Bureau of Entomology. A great work has been done by the Government, and the appropriation to push the work has recently been increased.

Address the Secretary of Agriculture, Washington, D. C., for a free copy of Circular No. 138.

A Too Regular Apiary.—Referring to the picture of an apiary in which all the hives seem to be placed at regular distances apart, with no trees or other objects in the way, J. E. Crane says in Gleanings in Bee Culture:

That picture of a California apiary looks good on paper. We have one symmetrically arranged in a similar way; but what a vexation it has been to me the past season it would be hard to tell. I made a large number of new swarms with laying queens; but I found it very difficult to get these young queens fertilized; and when I came to look over the yard for winter I found 10 or 12 queenless colonies, while my other yards would not average over 2 to the same number of colonies.

Poisoning Ants.—Bulletin No. 207, from Berkeley, Cal., contains detailed instruction for dealing with the Argentine ant. The best remedy proved to be 1 to 2 parts of arsenic in 800 parts of syrup. As the remedy is equally effective against other kinds of ants, it is here given in detail:

We obtained by far the best results by the use of a very weak solution of arsenic and syrup. Most of the commercial ant poisons commonly known as ant pastes consist of arsenic and syrup, but are made very strong in arsenic. This kills the foraging ants almost immediately. We found by reducing the arsenic to between $\frac{1}{4}$ and $\frac{1}{2}$ of one percent they would take large quantities of the material to their nests and feed it to the young, and the whole nest would be killed by a slow poisoning.

The most convenient way of exposing the poison to the ants is to use a large jar with a perforated cover, and within it place a sponge saturated with the arsenic solution. The ants will enter through the perforations in the cover, fill themselves with the arsenic solution, and carry it to their nests. The

sponge will hold enough poison to require 2 or 3 weeks to empty it, and before that time the ants will almost entirely disappear.

The number of jars to use will depend upon the abundance of ants. In the worst cases half a dozen jars will serve for an ordinary private house and lot; and if the ants are not very bad one jar may be enough. In such cases it is well to place it in the pantry or kitchen.

The same remedy can be used for all the native species of ants, and will be more effective against them.

Mr. Anderson (J. L.) 75 Years Young.—The weekly paper of Harvard, Ill., says:

"J. L. Anderson, of Lawrence, spent his 75th birthday, April 12—the 50th anniversary of the firing on Fort Sumter—in carrying out of the cellar 42 of his 100 colonies of bees."

Long may he wave!

"Advanced Bee-Culture."—A new edition of this book, by W. Z. Hutchinson, is just off the press. We have a copy of it in our hands, and can say that it is indeed a "thing of beauty." It is not only this, but it is one of the most practical and up-to-date books for the specialist bee-keeper ever written. Its 200 pages touch on nearly 500 subjects pertinent to modern bee-keeping, and all are discussed authoritatively. Its many fine illustrations are unusually clear in every detail. The book is bound in attractive and substantial cloth, with a clover design in natural colors on its cover. All together it is a volume whose appearance and unquestionable worth justly entitles it to a place in the library of every bee-keeper. No more important work on this fascinating subject has appeared. It is mailed for only \$1.00, or with the American Bee Journal one year—both for \$1.80. All orders should be sent to the office of the American Bee Journal, 117 N. Jefferson St., Chicago, Ill.

Pearce Method of Bee-Keeping

This is an illustrated pamphlet 6x8 $\frac{1}{2}$ inches, "explaining the keeping of bees successfully in upper rooms, house attics or lofts, whereby any one either in city or country is enabled with only a small expenditure of labor to get a good supply of honey without coming in contact with the bees, and without having the bees swarm out and leave, or being troubled from stings, as you work on one side of the wall and the bees on the other. This method also tells the commercial bee-keeper how he can divide his bees when he wishes to, instead of waiting and watching for them to swarm. It can all be done on the same day, or days if more than one apiary, as the time required for this operation is merely nominal, no swarms issue and go away. These methods are fully explained in this book, and how to care for the bees on the Pearce plan."

We mail this pamphlet for 50 cents, or club it with the American Bee Journal one year—both for \$1.10. Send all orders to the American Bee Journal, 146 W. Superior St., Chicago, Ill.

Worth Many Times Its Price.

To one who takes an interest in honey-bees, the American Bee Journal is worth its price many times over.

Tacoma, Wash.

P. A. NORMAN.

American Bee Journal

BEE-KEEPING FOR WOMEN

Conducted by Miss EMMA M. WILSON, Marengo, Ill.

"Bachelor Girls" and Bee-Keeping

Three of us bachelor girls—or old maids, if you prefer that title—want to make a specialty of the bee-keeping business, and want to go to Arkansas, somewhere in the Ozark region, where we can combine the fruit-business with bees. Now, if you don't mind advising us as to the best locality for bees, and any other pointers that people need who have had no experience whatever, but with love of outdoor life and work, we shall esteem it a great favor that we may perhaps some time return by passing it on to those in like need. If you do not want to bother with us, just toss this in the fire, but we very much want to hear from you.

Chicago, Ill. (Miss) ETTA THRAPP.

If, in asking as to the best localities for bees, you mean that you want to know in what county and near what town to locate, you will be disappointed as to getting any help, for this is a pretty big country, and very little can be known by one person about the best spots to keep bees. It is certain, however, that in Arkansas there are those who keep bees, and in a general way something may be said as to what constitutes a good location.

The main thing to look out for is the matter of pasturage. As you mean to take up the fruit-business, you will have one important item, for although there is generally no surplus honey gotten from fruit-bloom, it plays a very important part in yielding honey to feed a large amount of brood, and this brood makes the bees that harvest the surplus later on. Without knowing anything about the resources of Arkansas, it may be well to say that where white clover is abundant, or basswood, or buckwheat, in places farther north and east, there may be good hope for success, and it may be the same way in Arkansas, although some other honeypoint may be of still more importance there, as cotton. Where two or more principal honey-plants abound, of course success will be better than with only one.

Now it will be a very ungracious thing to throw even a few drops of cold water upon your bright hopes, but do you dear girls know what you are about? If you know nothing about fruit-growing (and confessedly you have no practical knowledge of bee-keeping), you may find the actual facts very different from the things you read about. Please don't for a minute think of going into bee-keeping unless you are prepared to go without any profit from the business for at least 2 or 3 years. If you could start in right where you are with 2 or 3 colonies of bees, and learn something about them, after a year or two you would be able to know whether it would be wise to launch out on a larger scale. Dr. C. C. Miller, who is considered a successful bee-keeper, tells in his book, "Forty Years Among the Bees," that after being a bee-keeper 11 years he had only 2 colonies! So please don't plunge.

We will be glad to have you tell us in this department what you are doing.

Reciprocity and the Canadian Honey-Trade

Miss Ethel Robson, Conductor of the "Woman's Department" in the Canadian Bee Journal, is evidently allowed a free hand in her domain. The editor says so, and proof is not lacking in her initial number that it is so. On the much discussed subject of reciprocity the editor says:

"We have been taken somewhat severely to task by several correspondents for our attitude regarding the proposed removal of the import duty on honey. We can merely explain that we were taught many years ago to regard every man as our brother, whether he be white, black, red or yellow; and as a natural consequence we have come to believe in free and unrestricted trade in all articles and commodities that make for the well-being of the human race. With us, it is a question, not of expediency, but of faith."

On the other hand, Miss Robson says:

"The proposed reciprocity treaty is the one question in Canadian politics which has gotten beyond the range of mere party lines, and Canadians are discussing it with more national feeling than any other question within the memory of a good many of us.... The writer has taken the pains to find out the opinion of many of our leading bee-keepers—men who have the widest knowledge of marketing conditions—and they are unanimous in the expression of the opinion that the honey-trade in this country has received a severe and unnecessary blow."

Proceeding with a well-argued statement of the case, Miss Robson says among other things:

"It may be argued that we have no right to deny the poor man the privilege of buying in a cheaper market; it is hardly to be supposed that bee-keepers go into business from more philanthropic motives than other men. But granted so, the reduction in the retail price by the removal of the duty will hardly be sufficient to make a difference of more than a dollar or two to even the largest consumer, while the reduction of one or two cents makes a big difference in a man's whole crop."

It may not be prudent to interfere in an affair between a man and a woman, as in this case, but one can not help thinking that the little difference of a cent a gallon on kerosene makes no great burden on the poor man, while it helps greatly to fill the purse of one John D. Rockefeller, and yet there are some who think it better that the thousands should have the benefit of a few cents each than that a larger benefit should accrue to that same John D. So it is just possible that it might be thought better that the many should have the benefit of a few cents each in the matter of honey-supply than that the few bee-keepers should each have a larger benefit.

Pronouncing Words from Foreign Languages.

Just a word or two to "New York" (page 53): In speaking of using proper and improper terms, he (or she) advises one to say, "It-ali-ans" instead of "I-tali-ans." One is just as bad as the other, so why make the change that way? Why not say, "E-tali-ans," and have it right? Italy, (pronounced

"E-taly") is an Italian name and the letter "i" is pronounced as we pronounce "e"; just as in Spanish, and other languages, too.

The Americans have nearly always taken up some foreign name, word or saying, and spelled them with the same letters, but given a pronunciation to suit themselves, as, for example, Flori-da for Flo-retha; Kai-yote for Coy-ote; Lano for "Ya-no," when trying to pronounce Llano; and a score or more too numerous to mention.

Eola, Tex.

(MRS.) M. E. PRUITT.

The matter of pronouncing correctly words from other languages is not the easiest thing in the world to handle. It would simplify it immensely if we could have fonetic spelling. Some words are imported from other languages, spelling and pronunciation, without change. Others undergo more or less change, and we must refer to an English dictionary to know what is right, rather than to refer to a dictionary of the foreign language. Whatever may be the sound of the first letter in the word "Italian" in any foreign language, if our esteemed correspondent will pardon the saying of it, in the English dictionary it has the same sound as that of the first letter in the word "it." After all, the difference between long e and short i is one not so much of kind as of length. Say "bit" very slowly, and "beet" very rapidly, and see how much difference there is between the two words.

Some Tested Honey-Recipes

DEAR MISS WILSON:—I come to bring you some recipes which contain extracted honey, which I have not seen published in the journals:

PASTE FOR SINGING BIRDS.—Blanched sweet almonds, ½ lb.; pea-meal, 3 lbs.; butter, ¾ ounces; yolks of 2 eggs; to grs. of powdered saffron, and sufficient extracted honey to make a paste. Mix all and force through a sieve or fine colander. Make into 20-gr. lozenges, and give one once a week.

FOR BRONCHIAL COUGH (in animals such as cows, horses, dogs).—Powdered squills, 1 oz.; Dover's powder, 4 drams; extract of belladonna, 3 drams; sufficient extracted honey to make a paste. Give night and morning by smearing a piece ½ size of an ordinary walnut on the tongue or molar teeth. Use, in addition, ½ ounce of bicarbonate of potash in the drinking water.

TARTARED TEETH.—Mix thoroughly ½ ounce of muriatic acid, 1 ounce of extracted honey, ½ ounce of water. Wet a tooth-brush well and brush the teeth briskly, and then rinse the mouth and teeth thoroughly several times so that the good teeth be not affected with the acid, and use warm water.

HONEY BALM.—Mix, by gentle heat, 4 ounces of extracted honey and 1 ounce of glycerine. Then dissolve 3 drams of citric acid in 1 ounce of alcohol, add 6 drops of the essence of ambergris. Then add to the honey and glycerine when cold; and stir until well mixed.

FLEXIBLE GLUE.—Equal parts of glue and extracted honey. Mix well and use hot. Of course, the glue must be soaked in water 24 hours; all the water poured off, and the glue melted in a glue-pot, and then the honey added. It dries very quickly, and when dry is elastic and valuable for many purposes on this account.

FOR CHAPPED OR ROUGH HANDS.—One ounce honey, 1 ounce glycerine, 4 ounces of ground barley; the white of an egg. Shake well, and apply at night.

Eola, Tex.

(MRS.) M. E. PRUITT.

Pennsylvania State Meeting.—The summer meeting of the Pennsylvania State Bee-keepers' Association will be held at Reynoldsville, Pa., July 11 and 12, 1911. The place is not far distant from Pittsburg. All bee-keepers who can attend are invited.

CANADIAN



BEEDOM~

Conducted by J. L. BYER, Mt. Joy, Ontario.

Bee-Keeping at the Ontario Agricultural College

The Short Course in Apiculture at the Ontario Agricultural College, held from May 1-6, 1911, at Guelph, Ont., was the first Short Course of its kind ever held at the Ontario Agricultural College, and it was a success.

In all, 43 bee-enthusiasts were in attendance, including 8 regular apicultural students of MacDonald Hall, and 6 other ladies from different parts of the Province. The counties represented were the following: Bruce, Carleton, Dufferin, Elgin, Haldimand, Kent, Lambton, Leeds, Lincoln, Middlesex, Perth, Stormont, Welland, Wellington, Wentworth, York, and the Province of Quebec. Nine of the Provincial Apiary Instructors were present, also Dr. G. Gordon Hewitt, Ph. D., Dominion Entomologist, and his assistant apiarist, Mr. Beaulne, of the Central Experimental Farm, Ottawa.

The program consisted of forenoons devoted to lectures, the afternoons to demonstration and practice, and the 3 evening lectures of a more popular nature, copiously illustrated with lantern views. The weather being cold most of the week, the practical work took the form of demonstrations in the Apicultural Laboratory, doing such work as rendering wax from combs, nailing up hives, nailing and wiring frames, and putting in comb foundation. A rather complete display of different kinds of combs which bees build, also of the machinery used in the production of honey and beeswax, attracted much attention.

By Thursday it was warm enough to visit the College Apiary. The hives were still in the boxes where they had been packed with planer shavings for the winter. These boxes were taken off by members of the class and stacked; the shavings were removed, and the class was given a drill on handling combs, and looking for different conditions of the internal economy of

the hive. Friday afternoon was spent in a similar way, giving more attention to the symptoms of American foul brood. Saturday afternoon local apiaries were visited, and some members of the class became discoverers of real

causes of disease, much to their own satisfaction.

The lecture work was divided largely between Mr. Morley Pettit, the Provincial Apiarist, and Dr. E. F. Phillips, Ph. D., In Charge of Apiculture for the United States. Mr. Pettit handled the more practical problems of apiculture, and Dr. Phillips discussed the question of general behavior, anatomy, and diseases of bees. Prof. Edwards introduced the subject of disease by a general discussion of the nature of bacteria. Prof. Harcourt demonstrated simple chemical tests for the purity of honey. Prof. C. A. Zavitz explained



FIG. 3.—THREE GROUPS OF HIVES UNPACKED.



FIG. 2.—LOOKING FOR FOUL BROOD.



FIG. 1.—TAKING WINTER PACKING OFF THE HIVES.

the work of the Ontario Agricultural and Experimental Union, and suggested ways in which it could serve the beekeepers of Ontario in addition to the work already done. Mr. LeDrew explained the principles of co-operation which might be applied to the business of honey-production.

The evening lecture by Dr. Phillips, on "The Behavior of the Bee," and on "The Hawaiian Islands and their Bee-Keeping Industry," were largely attended by members of the Normal Teachers' Class and the students of the O. A. C. and MacDonald Hall.

At the Friday night lecture President G. C. Creelman, B. S. A., LL. D., occupied the chair in his usual genial manner.

There were many expressions of appreciation from the members of the class as they dispersed to their homes, on Saturday, May 6th.

The 3 illustrations herewith will help to make somewhat clearer certain portions of the test.

Preparing a Bee-Cellar or Bee-Cave

Touching the question of cellar wintering, let me tell of something that came under my notice but a few days ago. I happened to be visiting a beekeeper living 200 miles from my home, and I am bound to say that after having seen many hundreds of colonies in different kinds of cellars and repositories in different parts of the country, the method used by the man in question gives the most perfect success of anything that has come under my notice in the way of wintering bees indoors.

The apiary is located on a flat lime-

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stone rock, very little soil showing at any place. In digging the cellars, or "caves," as my friend calls them, he simply quarried out the limestone about 18 inches deep and piled the pieces of rock along the outsides. Pieces of split cedar were stood on end all around the enclosure, and the same material was used to form the gables of the roof. Along the ridge of the roof a full-length piece of cedar about 10 inches thick was supported from the center of the floor by posts of the same material. Now over all the roof and against the sides earth was put to the depth of 18 inches over the roof, and probably 3 feet against the sides and ends.

In the one end of course a door frame was placed, and in this frame the inside door opened to cellar, while the storm door, about 2 feet farther out, opens outward. For ventilation, wooden pipes about 4 inches square go up through the roof, and have an elbow at the top to prevent rain going in. If I remember correctly there were two in each end of the larger cave. This cave is 10 feet wide and 20 long, about 5 feet high at the sides, and 6 feet at the ridge of the roof. Two others are of smaller dimensions, but built exactly as the larger one described. So much for the simple construction, and now for results.

Bees have been wintered in these caves for 25 years, and always successfully with the exception of 4 years ago when so many bees perished with honey-dew in the hives. The past winter 100 colonies were wintered in the larger cave, and 80 in each of the other two. They had no flight after the last week in October, and were put into the cellar about Nov. 15th. At the date of my visit (April 18) all but 40 colonies had been carried out, and all alive but 3 colonies that had been queenless in the fall, and had combs full of honey. The hives were all so very heavy that unless some of it is taken away the queens will be cramped for room—in fact, after lifting dozens of colonies I came to the conclusion that they would average 40 pounds of honey at present—hives being Langstroth length, 8-frame width, and but 2 inches deeper than the Langstroth frame. This is stated to show the extremely small quantity of stores consumed in the long winter's confinement.

The hives are placed in the cellar with the bottom-boards removed. On top of a row 2-inch strips are laid, and about that thickness of leaves are above the quilts to absorb dampness, the owner told me. On top of these strips another row is placed in the same manner. The hives were 3 deep at the sides of the cave, and 4 deep in the center rows.

I have stated that 40 colonies were still in the cellar at the time of my visit, and my friend told me to come in and see how they were placed. After stepping inside I went to close the door behind us at once, as at the late date I expected the bees would be uneasy, especially so because only the day before some 40 colonies had been carried out of the place. The door faced the west, and as it was about 2 o'clock in the afternoon, the bright sun shone directly into the cave, the entrance to the same

being practically on the level. My friend seemed surprised at my ideas as to the bees being uneasy, and left the door wide open. We went inside and sat down, and listened, but not a sound could we hear, even if the owner of the bees did sit contentedly on top of one of the rows of hives, thus jarring them some, and even if the temperature outside was about 60, with thousands of bees flying around, and many of them coming in the open door.

I lifted up the quilts of several of the colonies, and down below the honey could be seen the clusters. On looking under the hives they were more plainly seen, but not a single bee offered to fly out, although we stayed in the cellar for at least 10 minutes.

Later on I went into the cellar again, and closed the door to see if they had awakened any more, but not a sound could I hear. This is without doubt

successful wintering in the strictest sense of the word; and, as to temperature, my friend said he had never taken a thermometer in the cellar. "What's the use," he said, "as long as they winter well?"

Needless to say, I regard this visit as an educational one, and no doubt many bee-keepers situated where an orthodox cellar is an impossibility, could well profit by the experience of my friend. I am told that there are quite a few bee-keepers who winter bees in the same way in the section I have been speaking of, but here in central Ontario I have never met with a repository for bees constructed on the principle described. If called upon to construct any place for inside wintering of bees, certainly, after what I have seen so recently, it would go a long way in helping me to decide on the type of cellar I would construct.

SOUTHERN



BEEDOM

Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

A Minimum of Swarming

While many bee-keepers have experienced a great deal of swarming this spring, on account of most favorable conditions conducive to the real, old-time swarming fever, I did not have this trouble to any great extent. There is a reason for this, in my mind at least. My swarming for the last 10 years has been cut down to practically 2 percent, on the average. During several years I have not had any, or very few, swarms in most of the yards, and comparatively few during even the more favorable seasons. This year I have had a most favorable spring for swarming, but by watching the strongest colonies every week or 10 days, and by carrying out certain manipulations that I have practiced and modified from time to time for the last 10 years or more, I have cut down the number of swarms even this year to a low percent.

I may attribute my success to the fact that I manipulate my colonies in such a way as to keep the bees in as comfortable a condition as possible at all times, especially in the spring of the year, and most especially during that period of time before the colonies get into the swarming desire at all. First of all, I think a large 10-frame is the most essential factor toward preventing swarming, and for this reason I long ago adopted not only the 10-frame hive that could be enlarged at will, and to the needs of the colonies at all times. Although I have had the best results by the use of the shallow or divisible brood-chamber hives, I also have succeeded very well by using the regular 10-frame Langstroth hives in connection with as many extra shallow hive-bodies and supers as becomes necessary at any time. Thus I still have the principle of the divisible brood-chamber hive, however, wherein lies the secret of most of my success in

at least decreasing the number of swarms, if not preventing them altogether.

Giving sufficient extra storage-room above the brood-nest very early in the spring, into which the colony can spread as needed, and thus never becoming crowded in the brood-chamber, is the one first step that I look after in the question of swarm-prevention. Next to this comes the important matter of manipulating the brood-nest in such a manner that there will never at any time during the entire swarming season be a congested condition of the brood-nest itself. Prevent this in addition to giving sufficient room as stated, and half of the battle is won. All that is necessary from now on is to keep one's eye, as it were, on the question of having enough room for the colony so the bees feel comfortable and not crowded, and that there is no congestion of the brood-nest, thus keeping the queen and the rest of the colony comfortably busy.

Where large numbers of colonies are kept, and these in many apiaries, some short-cut methods must be applied as a natural result, by which the above work can be done in a wholesale way. While it becomes necessary to handle and re-arrange combs in the Langstroth-size hive-bodies when these are in use, we gain over these by handling whole shallow stories with the divisible brood-chamber hives. My manipulations consist chiefly in "swapping" or interchanging the shallow stories of the brood-chamber proper. This latter consists in the spring of 3 of the shallow 10-frame 5 $\frac{1}{4}$ -inch stories. At first the brood may be only in the two lower ones, but later the queen also uses the third or upper story. Thus I get lots of brood and rousing colonies for the honey-flow, and it is only another reason why I encourage the queen to go above.

Thus all 3 stories become more or

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less filled with brood, the central ones becoming the most congested. As soon as this is almost reached, the congestion is broken up by interchanging the stories in such a way that the brood-nest is again open, and room for the queen is made at the same time. In remodeling the brood-nest and rearranging the honey-stores, etc., an impetus is given that has a stimulating effect upon the colony, and gives excellent results. By thus exchanging the different stories in various ways to suit the immediate needs of each and every colony every week or 10 days, for the several weeks during which the swarming season is on, I have been enabled to manage a goodly number of colonies in many apiaries scattered far and wide.

It is an established fact here in the South, that the bees will stop all swarming as soon as the main honey-flow begins, when they seem to resort to only one thing—that of gathering in all the stores they can possibly get. My secret, therefore, is to abate swarming until this honey-flow comes, when the danger-point is past. However, this spring we did not have an early flow, and the coming season was consequently prolonged for a considerable length of time. But in spite of this fact, the number of swarms was kept down to a small percent with my methods of manipulations, while others complained of too many swarms.

Some Swarming Troubles—Robber-Bees

One of the difficult things we have to contend with in this locality is bees swarming when little or nothing is being gathered by them. What I mean by this is, not enough honey is being gathered daily to supply the demands of the colony, and we have to keep a constant lookout to see that some colonies do not run entirely without stores, and destroy their brood. Of course, we can feed or give frames of honey, but to do either means swarming later, sure. If we could always have a surplus of ready-drawn combs, we could overcome this by tiering up and giving plenty of room.

It is here like it is in California and other warm climates, if bees have plenty of stores in the hives, or are given a liberal supply of honey, they will swarm almost as badly as if a light flow of honey was on. (Bees seldom swarm here when a heavy honey-flow is on, provided plenty of pollen is to be had, which is usually the case.)

It sometimes happens that we want some increase, and we are short on combs, and to hive swarms on foundation without a frame of honey to help them would mean almost or quite starvation, and the comb foundation badly gnawed around the wires—perhaps ruined. How to overcome this is quite a puzzle to me. If I had plenty of combs, as stated, I could easily overcome this. Such, however, is not the case, and I have more or less loss each season from this source. If I had the bees all at home I could partly overcome it by feeding; having them scattered in 3 or 4 yards, several miles from home, it is not an easy thing to manage, and I almost always have a honey-dearth at the main swarming season here.

No doubt but there are few who have the same amount of trouble along this line as I have. Any suggestions from practical bee-keepers on this subject would be appreciated.

We are in the height of the swarming season at this writing, and as I left the bees an over-supply of stores last fall, I expect an over-supply of swarms. Plenty of stores here in the spring means much swarming, as a rule.

FOOLING THE ROBBER-BEES.

A good way to stop robbing is to watch at the entrance of the colony being robbed, and line the bees as they come out of the hive, to the colony doing the mischief. It is usually just one colony doing most of the robbing, although the average novice might think, from the uproar they were causing,

that at least a dozen had a "finger in the pie." After you have the thieves located, quietly pick up the colony being robbed, and move it to the stand of the one doing the robbing, and put the robbers on the place they occupied; or, in other words, exchange places with them. Any one who has never tried this has no idea how quickly they will quiet down, and all hands go to work as if nothing out of the common order of things had been going on.

When I first read of this plan of stopping robbing, my fears were for one or both queens being balled, but after having tried it a number of times, with not a single queen being molested, I have no further fears along that line. It will not only stop robbing, but it is almost always a real benefit to the one being robbed, at least, for it is almost always a weak colony that is robbed, and a strong one doing the robbing. So the exchange strengthens the weak one, and does the strong one no harm.

I would use no other plan now to stop robbing. Try it and report the results through the American Bee Journal.

Rescue, Tex., April 10.

L. B. SMITH.

Starters or Full Sheets of Foundation

It is a pity that some people begin to save at the wrong end. Many bee-keepers are addicted to this in the use of comb foundation. To try to save on foundation by using only starters instead of full sheets means a far greater loss in results obtained than is at first expected. Too few stop to figure this

out, and look only upon the saving in the first cost. My experience has taught me that a saving of 20 cents worth of foundation on each super will mean a loss of \$1.10 worth of honey. That is to say, supers given with full sheets of foundation will be filled with that much more honey in a certain length of time over those in which only starters were used.

This difference I discovered accidentally several years ago. In apiaries where supers were given, part of which were filled with full sheets and part with starters only, the former were almost completed in 8 days' time, while the latter were only half full. So great was this difference that I noticed it immediately, and further examination of the entire lot of supers thus used proved to me conclusively that it did not pay me to use the starters.

On account of a short supply of comb foundation, caused by a delayed shipment, and with a good honey-flow on at the time, it was necessary to use only one-third sheets to make the supply on hand last. The loss due to the supers filled with the starters amounted to \$200 in 8 days.

It pays, and pays big, to use full sheets of comb foundation at all times.

CONTRIBUTED



ARTICLES

Requeening and Queen-Rearing

BY F. GREINER.

The bee-keepers of our land are becoming more and more convinced that they must look after the age of their queens more than they have. Some colonies renew their mothers timely without any interference of the keeper. If we could depend upon this we need not trouble ourselves at all. In Switzerland, good breeding stock must supersede timely. This must be a fixed quality, or the stock is rejected. Since foul brood has made such inroads upon us, many bee-keepers have observed that colonies with young queens are more immune, or disease-resisting, than such as are headed by old queens. This being true, we might decide on renewing all our queens every season, but if we did that we would never have any reliable breeding-queens, as none could be tested in so short a time.

Taking the above view, it would be better at least to calculate on keeping each otherwise good queen two years; select out of those such as outstripped the rest, and again keep them for a third season. Following this policy we would probably have but few failing queens. The losses from failing queens are often very great, and we certainly ought to guard against this thing all we can.

Mr. Taylor, at a bee-keepers' institute, said a few years ago, "The remedy is, 'Keep more bees.'" Like the former, Doolittle advises to allow the bees to renew their queens when they think

best; this would be the "easy" way but would need more capital; and but few of us would like to see our capital lie idle. So it will undoubtedly be to our advantage to have something to say about renewing the queens of our colonies kept for honey-production.

In localities furnishing no more surplus honey after the flow from clover and basswood is over, no better time can be chosen to replace old queens than just at that time. It is not necessary to buy queens for this purpose. In fact, the better way is to rear them yourself. In order to preserve the high standard of the honey-bees, the queens should be reared under most favorable conditions. These conditions prevail during the honey-flow, and at no other time. It is possible to help out by feeding, and thus producing, artificially, favorable conditions, but the honey-producer might better depend upon Nature.

I am also not fully satisfied that the standard of our bees can be maintained if we constantly rear queens by transferring larvæ into artificial queen-cells. I greatly hope it is, because it does enable us to have ripe queen-cells without much trouble at the right time. I have reared queens from natural cells; I have used natural cells, removing the original larvæ and replacing them by selected ones; I have used artificial cells primed and unprimed; but I have not found any difference in the result. We must, however, not forget that our honey-bee has been bred for thousands of years by the natural process, and all her qualities have been so well fixed

that an occasional blunder on our side would not crop out at once. But should we continue rearing queens by transferring larvæ for years and years, rearing generation after generation in this fashion, we might come to grief—our stock of bees might deteriorate.

When a colony loses its queen and there is young brood in the hive, the bees at once set about it to rear a new queen from it. Such reared queen is no better than one we may induce the bees to rear from a transferred larva, and we may thus excuse our transfer method; but such a thing is an exception. It may not occur once in 25 years in a hive. In order that we may be sure that no deterioration can take place, the young queen ought to be treated like a princess from the very beginning.

We will come the nearest to Nature by supplying only eggs from which to rear the queens. We are not absolutely sure then, but it is the best we can do, as we can not influence the queen to lay eggs in artificially-prepared queen-cells. Mr. H. L. Case, in 1909, made known to us a plan by which it is a simple matter to have a great many queen-cells built out from eggs. His plan was, first to insert a nice comb in the breeding colony. After 3 days, or before any larvæ have broken the shells, remove the comb, which is by that time full of eggs, and make incisions with the row of cells down to the midrib on one side of the comb only, but clear across. With a narrow chisel remove every other strip or row of cells. Now destroy every other cell in the rows left intact, and give the comb flatwise propped up over the brood-chamber, to a queenless and broodless colony. Mr. Case has had 75 fine cells built out in this fashion on one comb. Dr. Phillips advocated a similar plan at the State bee-keepers' meeting in Geneva, Dec. 12, 1910.

With such an amount of cells as the product of one colony, it is an easy matter to renew the queens in a lot of colonies. The only trouble would be to catch the old queens. Our foul-brood inspectors employ a sieve; others have done so. With black colonies in the fall of the year this is the quickest way. Then, after the colonies have been queenless for a day or two, the ripe cells are given, one or two to each.

Just before the buckwheat honey season closes is also a good time to renew queens without making a sacrifice. Many authorities would have us think that it does pay to renew queens in this fashion early in the spring or during fruit-bloom. This may be so, but if there are any queens not extra-prolific in the yard, it will surely pay with them. In fact, I have noticed that while there occurs a loss, no eggs being laid for about 12 days when a queen is removed and a ripe cell substituted, yet when that young queen commences to lay, she usually soon makes up that loss, even when the young queen was still doing a good business. A young queen, thus reared, is also not apt to lead out a swarm that season—from the standpoint of the comb-honey producer, certainly no small advantage.

Naples, N. Y.

Giving Natural Swarms Part Empty Combs

BY G. M. DOOLITTLE.

A correspondent writes that he is a subscriber to the American Bee Journal, and wishes me to tell through its columns how it would answer to give his swarms as they come, in hives having 4 frames of empty comb and 6 frames having a starter of worker-comb in them, enough so the bees will build their combs true in the frames. He says he has empty combs enough so that he can furnish each new swarm with only 4 combs, and that the bees must build the rest of those needed themselves, as he does not feel able to buy comb foundation to fill the frames that do not have comb in them.

First, allow me to say that I believe there are times when it can be made to pay very largely to fill the frames with worker-comb foundation; and at other times I am sure that the bees can build combs at a profit above buying the foundation. And if he must give his swarms as he proposes, that is just the time it will pay any one to fill the empty frames with foundation. The only time when it will pay to give swarms upon frames having only starters in them is, when honey is coming in slowly, or with small swarms; if the whole of the frames a hive contains are given the swarm at time of hiving. In either of these conditions the bees will fill the frames mostly with worker-comb. But with large swarms and a heavy yield of honey, the combs which are built would be quite a share of them drone-comb, which would be to the detriment of a good yield of honey ever afterward, unless the bee-keeper went through the labor and trouble of cutting out this drone-comb and fitting worker-comb in its place. However, if the sections are filled with empty comb, or with thin comb foundation, and the hive contracted with dummies so that there are only 5 or 6 frames in the brood-chamber, then even a large swarm with a good flow of honey, will build mostly worker-comb, as, in this case, there will be ample room in the sections for the storing of the nectar, while the bees build the worker-size of cells for the eggs of the queen.

"But what is there against working on the plan as given by the correspondent?" I think I hear some one ask. As I consider it, there are three things against it: The first of which is, that the bees would be likely to fill these combs with honey almost immediately, if the swarm was large and the flow of nectar good, thus giving 4 combs solid with honey, instead of having that much in the sections, thus thwarting the purpose of contracting hives, as has been just mentioned, which is, to secure the first and best quality of honey in the sections, and also to entice the bees to work in the sections before they commence to store in the brood-chamber to any extent. These empty combs can never take the place of dummies. With the dummies, there is no place to store anything in the brood-chamber until comb is built, and as the combs or foundation which will soon be drawn out in the sections will give empty cells before there are

any in the brood-nest, this first honey goes into the sections, and by the time cells are built in the frames the queen has regained her fertility, so that these brood-frames are all filled with worker-cells and brood, just as we wish them.

Then, again, the correspondent's plan would be rather a method of expansion, for the bees would have to spread out over these combs, if they were placed at each side of the hive to keep things properly warm, so few bees would enter the sections, while the dummies simply take up space, the bees not having any desire to hang around the outside of them. Then, if the season was good for two weeks or so, and the swarm did not dwindle in numbers too rapidly, the bees crowding the queen down to little room for brood, would cause swarming, as often happens in this locality, just at a time when the best work is generally being done in the sections. Of course, these swarms could be returned and the queen-cells cut off, but this makes a lot of extra work, and generally a mixing of swarms, which is a nuisance to any apiarist. Then, as a rule, such colonies are more persistent in continued swarming to the end of the flow, than is an old colony; and this persistency always destroys the prospect of a good yield of section honey. I have often had swarms go to work with a will under similar circumstances, working till the sections were about two-thirds completed, and then, just as I was priding myself on having a large lot of beautiful honey from such a swarm, out they would come, and be so persistent in swarming that few of the sections would be completed, while what were, were so travel-stained and so unevenly capped that their selling price was very much injured.

But the worst feature of all, when giving a colony part empty combs and part empty frames, lies in the persistency of these swarms building drone-comb in the empty frames. The *why* of this is hard to understand; but an experience covering more than 40 years has proven to me that bees can not be depended upon to build any worker-comb during the first week after being hived, where one-fourth or such a matter of the hive contains empty comb, and the swarm is one having a laying queen. With a large swarm having a virgin queen the case is different, such as a swarm coming from a colony which has lost its old mother at about the swarming season, or with very large second swarms. It takes from 3 to 6 days for such a queen to become fertile and commence to lay, after the swarm is hived, and during this time the bees have filled the empty combs given with honey, so that new comb must be built at a time when this young and vigorous queen demands only worker-cells, as she has no such desire to lay in drone-comb as has a queen a year or more old. Then, when such a queen begins to lay, she crowds the cells with eggs as fast as built, thus keeping the bees building worker-combs to an extent greater than is usually the case.

But, as it is a rare thing that many swarms issue as the first one of the season with a virgin queen, and as scarcely a person in this 20th century

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has any use for second or after-swarms, my advice to all is (and has been ever since comb foundation came into use): Use only starters in the frames when hiving swarms, or else fill all frames with foundation, or give all frames filled with comb. And after years of practice along this line, I still believe this to be good advice. Frames filled with foundation, mixed with those containing comb, do much better than frames having only starters when used with combs; but even this is objectionable on account of the bees lengthening the cells on the combs given, while they are working the foundation, so that the combs along the top-bars of the frames will be very thick when completed, while those with foundation are correspondingly thin.

Borodino, N. Y.

Local Shipments of Comb Honey

Read at the Colorado Bee-Keepers' Convention
BY FRANK RAUCHFUSS.

Owing to an almost entire honey crop failure in Northern Colorado during the season of 1910, local shipments of comb honey from other sections of the State became necessary. Some of these shipments were made by express, but most of them by freight, as our experience in former years with express companies has been that it is simply a matter of paying higher charges for a poor service.

Having received many local shipments during the past fall, ranging in lots of 12 cases to several hundred cases, and in distance of shipment from 75 to 450 miles, we have had plenty of opportunity to experiment as to what is needed to make the shipping of small lots of comb honey during cool or cold weather a success, and will herewith give some of our observations:

While warm weather prevailed shipments came through in fairly good condition.

When cold nights came on, no shipment arrived in good condition when cases were shipped singly (glass always protected by thin boards), whether packed in single or double tier cases.

Honey in double-tier cases came through with much less breakage than that in single-tier cases.

Honey produced without bottom starters in the sections broke down more than with the bottom starters.

Single-tier cases and also double-tier cases crated together with lath (4 cases in a crate) came through in very bad condition; however, in explanation it may be stated that these came the longest distance, and were transferred twice in transit, and the damage most likely was done in the transferring by tumbling the crates around, as they have no projecting handles.

Single-tier cases with the new and much-praised sliding covers have proven a dismal failure, as the cases had to be tied with string in transit to keep them from falling apart.

Large printed cards with lengthy instructions to freight handlers proved of little or no value; evidently they were too long to be read.

The only lots that came through during cold weather *without damage* were

those that were shipped in 8-case carriers, with straw or hay beneath the cases, and projecting handles at the ends of the crate. While these handles are of little value to carry the crates, they seem to prevent the placing of the crates on end in the cars, and prevent their being tumbled about.

As the damage in these local honey shipments not packed in carriers has been so frequent that we have come to the conclusion to notify our members that after this we shall not receive any local shipments of comb honey unless packed in carriers. Another advantage of the carriers is that the cases are protected, and arrive in clean condition.

The present rulings of the Western Classification do not make any distinction between comb honey shipped in single cases, glass protected, and comb honey shipped in 8-case carriers, which is manifestly a hardship to the producers, and the reason why the use of these carriers for shipments is not more general. I am, therefore, trying to enlist the support of large jobbers and shippers of comb honey within the territory of the Western Classification, to urge the Western Classification Committee to rule that comb honey in carriers with straw or hay beneath the cases shall go as second-class freight, for the reason that it will take less time to handle them, and the danger of damage is reduced to a minimum, thereby saving the railroads many damage claims. I hope that this move will find the support of this Association at its present session.

Denver, Colo.

Improved Bees and Properly-Bred Queens

BY HARRY LATHROP.

Much has been written of late about the large increase in honey-production that could be secured through improved races of bees and properly-bred queens. Bee-keepers have been advised to breed from those colonies that produced the exceptional crops. In the March Bee-Keepers' Review, Editor Hutchinson gives a reprint of Gravenhorst's article on honey-storing capabilities. Gravenhorst says this in one place:

"By repeated examination and observation I have learned that there exists a certain condition under which a colony will gather the most honey, whether it be strong or weak. If this condition has not yet been reached, or if it has been passed, the storing of surplus will be neglected, or at least carried on only moderately."

Now, how about breeding from the colony that stores the most honey? The one that stores the most, according to Gravenhorst, will be the one that hits the opening of the honey-flow in just the right condition. Every observing bee-keeper will believe that Gravenhorst is about right, but the colony that happens to be in just the right condition may be of one particular strain or another, just as it happens. One year it may be a certain queen, and the next another. I have often had the bumper crop from some colony from which I did not wish to breed on account of something objectionable in the temper of the bees. Of

course, I believe in trying to improve our stock, but I do not believe there is so much in superior strains as some would have us believe. I could never prove it in actual practice. Regardless of superior breeding, if you wish to get big results from a single colony, try this plan:

Buy a box-hive colony from some farmer who never saw a queen. Get one of those big, tall ones that went into winter with a strong force of bees and 50 or more pounds of honey. They will have fixed their brood-nest just to suit themselves. It will be warm inside, with plenty of stores right over and around the cluster. They will not feel the cold of winter even if wintered out-of-doors. Take this old box-hive colony home, and in the spring pry off the top and give them an upper story of nice worker-comb. When the queen has gone up, and these combs are partly filled with brood, take it on a day when the queen is upstairs, just about the time when the honey-flow is opening. Set the upper part off, remove the box-hive to one side, and place the regular hive-body that has the queen, on the stand. Give them surplus room and work the old box in such a way as to feed the hatching bees into the working colony. You can take it away after some days and give them a young queen, if you wish, or break it up entirely.

Of course, this plan can be used with any kind of hive—I just mentioned the box-hive because they have a way of wintering a strong force and of throwing off an enormous swarm about the right time for the honey crop; unless handled as indicated above.

One man proposes to go to great expense in order to provide his whole apiary with queens bred after the most approved fashion. I believe the result would be disappointing. Suppose he should have a couple of poor seasons following his accomplishment of requeening his apiary with the very best stock that human effort could secure. He would get no returns on his investment, and at the end of that time his stock would show up no better, probably, than any ordinary, well-conducted apiary.

When shall we know the truth about these things? and when shall theories become demonstrated facts? Many theories would be accepted as facts to-day if it were not for other facts that do not harmonize, forcing us at least to take middle ground in many instances.

Bridgeport, Wis.

No. 2.—Construction of the Cell on Comb Foundation

BY FOLOPPE FRERES.

The natural comb, in its entirety, is built by the bee by means of successive additions of wax, and if we except a few attachment cells, dug out of the first rudimentary deposit, the *modus operandi* of the worker will consist in placing and uniting the materials in regular order.

The cell, in these conditions, is therefore built in full from pieces, and the work accomplished by the insect may

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be compared to the building of a wall, or rather of a turret, in which each parcel of wax corresponds to the stone used by the mason. The comb is *built*, in the full sense of the word.

As for the comb erected out of foundation, it will be otherwise. It would, however, be proper for the bee simply to add to the rudiments of cells provided by man, with new deposits, but she will not do it, evidently thinking that it is possible for her to take better advantage of the raw material which is there in excess. Setting aside her habitual manner, she will have recourse to the process which we have formerly seen her employ, she will work in "the lump." (However, if the starter has been furnished too late, and the crop is on, and of short duration, the wax-sheet may be loaded with new wax which the bees then produce in large amount, and thanks to which the building will be the sooner completed.)

By dint of labor she will succeed in digging out and thinning the bottom and the coarse structure in such a way that the cell will soon emerge from the sheet, will become elongated, and will finally reach its full size without the need of additional wax, provided the sheet has been of sufficient thickness.

It is then said that the foundation has been "stretched out"—a perhaps improper expression, but which gives an idea of the manner in which the work has been accomplished.

We ascertain thus, that not only the insect is able to discern the necessity of a different method of work, but also that it is able to obtain, by a process employed incidentally, a final result as perfect as, if not more perfect than, that reached by natural constructions.

We believe that we can not better give an idea of the difference between the foundation sheet just made, and that which has been shaped by the bees, than by reproducing two photographs of these sheets, taken in cross-section and made of equal size to facilitate comparison.

In Fig. 1 the sheet is exhibited such as it is used to place in the frame. In Fig. 2 we see a similar sheet in process of construction—on one side the thick artificial foundation, on the other the work of real fineness. This remarkable transformation has been accomplished within a few hours, almost under our eyes, but we are in the dark on many points as to the manner in which the bee proceeds with this fairy-like work.

Concerning the naturally-built comb, the observation hive has permitted our Masters to describe minutely, in spite of great difficulties, this marvelous work, in masterly pages not to be forgotten. Here, this direct observation could furnish but incomplete information, for the task of the worker is no longer accomplished on the rudiments of the cell, in a visible way, but at the bottom. To follow the characteristic motions of the wax-worker in these conditions, when her thorax is buried within the rudiment of wall of the cell, at a time when the entire frame is covered with the working throng, is practically impossible; barely can we see some changes permitting us to suppose, without really ascertaining the conditions.

We have thought that, since it is so

impracticable to be informed by the action of the bees, perhaps it would be possible to follow the advancement of the comb from the comb itself. The

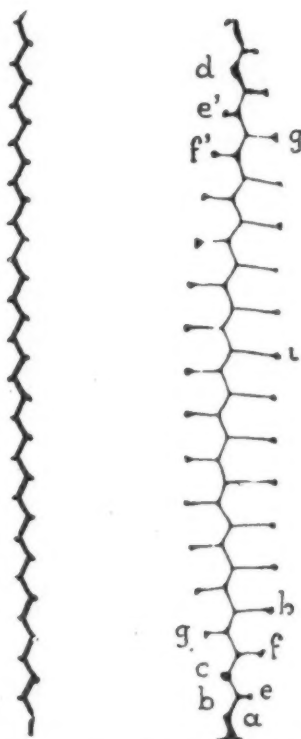


FIG. 1.—Cross-section of a sheet of foundation—natural size.

FIG. 2.—Cross-section of a sheet of foundation in process of construction—natural size.

labor of erecting the cells is never accomplished simultaneously; some cells near the center will be very nearly finished while others about the edges will be but begun. The different phases of progress are therefore registered in the comb itself.

On the other side, wax being an eminently plastic substance, and therefore retaining the most delicate im-

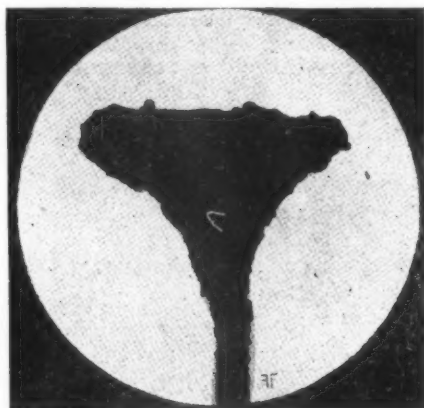


FIG. 3.—The lump at the outer edge of the cell, first stage—longitudinal section enlarged 35 diameters.

prints, will it not be logical to suppose that the cell must retain the evidence of the "tools"—if we may thus call them—which have served to do the

work? We may therefore believe that a deeper examination will permit us to determine with comparative exactness some interesting particularities of the process of the cell.

Fig. 2 will enable us to follow easily, in a general way, the sheet in its different conditions. This section of a comb built on colored wax will give us a neater cut, brought out better, on the plastic background which envelops it, than could be done with the lightest kind of wax; in addition, it will permit us to eliminate all cause of error brought by accretions, which would at once be indicated by a change of shade.

At its inferior extremity, in a, Fig. 2 (see May American Bee Journal), the sheet is not even shaped out, however the base of the corresponding cell b has already been subjected to a commencement of work, for the excess of beeswax has been pushed out upon the rudiment c, giving the latter an appreciable enlargement. If we try to ascertain how this change has been effected, we will only need to glance at d to become informed. The first half of the bottom of that cell is already finished, while the other half the wax has been pushed over progressively, starting from the center, the thinnest spot, going towards the rudiment which it covers. Little by little the midrib of the bottom will be brought to proper thickness, and the bulk of the wax, which appears in shape of wedge at d, will constitute the rudiment of the cell as we see it in c. The latter, very thick, as you may readily perceive, presents a projection of about a millimeter and a half, and its section is limited by perceptibly parallel edges.

At e and e, the projection shows better, and the appearance is again modified. Under labor similar to that already witnessed for the bases, the sides will also be thinned out, and the wax, pushed on in the direction of the outer edge of the cell, will there form a sort of swelling. The section of the rudiment will no longer have parallel edges, but will assume the shape of a small mushroom.

Upon the following cells f and f, one perceives the edges taken down to their normal thickness, while the little lump of wax still retains its triangular shape at g.

The bee, therefore, does not bring about the progress of the shaping of the cell by successive removals of wax from the sides, but constantly pushes back towards the edge all the unnecessary wax, retaining only the quantity necessary to insure strength of construction. The worker acts in such a manner that she does not need to return to the work already performed. We have often ascertained, also, that the queen, if short of room, will not hesitate to lay eggs in the rudimentary cells, for she has the certainty that the wax-workers will finish promptly their task without meddling with the larvæ.

As the cell enlarges, the lumps of wax diminish in size; in h, the triangular form lengthens out, to become ovoid in i, and if any of the cells are finished, we will see only a trace of enlargement at their extremity.

Fig. 3 represents one of the lumps at the time when the cell is shaped as in

g. One may notice in this silhouette how sharp are the angles of this pushed-over wax.

The Figs. 4 and 5 are also sectional

opaque than naturally-built combs, allowed the detection, with the naked eye, under a certain light of very fine lines, streaking the ribs of the cells in

wax under the effort of their mandibles. The cell is not drawn, as is generally supposed, for *drawing* would mean an operation in the direction of the length of the cell. It is exactly in the other direction that we see the imprint of the bee's work. And then would not this process disintegrate the molecules of wax? It would pull them apart, while beeswax needs all its cohesiveness—all its resisting power. To our mind the method employed by the bee comes nearer to the work of the potter, who, from the mass of earth piled upon his wheel, will bring into shape an elegant vase. We see the wax displaced under a progressive lateral pressure in every way similar to that employed in the rough modeling of clay and of wax. Besides, the mandibles of the bee have a shape similar to that of the human thumb, which is often preferred to tools by the workman, in order to give the desired contour to the plastic material.

This explanation of the working-up of the foundation sheet seems the more plausible because it rests upon an observation of documentary value, and because it agrees entirely with the verifications which we have been able to

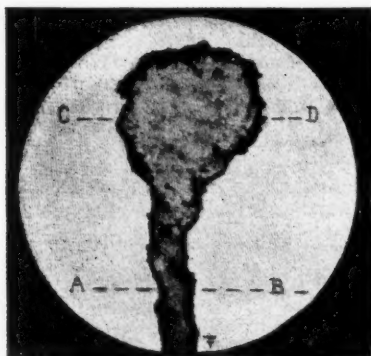


FIG. 4.—Lump on the edge of the cell—second stage—longitudinal section enlarged 35 diameters.



FIG. 5.—Third stage.

photographs of the cells at different degrees of lengthening. In Fig. 4 the reserve of material loses its sharp angles, while in the last the amount of wax diminishing gradually gives the cut the appearance of a maul.

Although these microscopic views have been taken on cells of different lengths, one may notice that, notwithstanding the enlargement, the thickness of their walls remains very similar, which would not take place if the cell was constantly increased in diameter.

Fig. 6 reproduces the intersection of cells taken in their thin portion, a transverse section at the height indicated at AB in Fig. 4. Fig. 7 gives us a similar intersection, but taken, in this case, through the center of the lump CD in the same Fig. 4. From these last two photographs we may ascertain the huge amount of wax constantly displaced by the bee in the building of the cell from foundation.

Until now we have but examined in a general way the different phases of the construction of the cell. We have seen the wax gradually brought by successive displacement, until the comb is constituted, but this comb has not yet

a direction perpendicular to their axis. We at first thought that these lines were caused by molecules of dye suspended within the wax, and that the coloring matter had settled, at the time of the making the sheets, in a direction parallel to the midrib of the sheet. However, our curiosity was awakened, and the side of one cell was placed under the microscope and normally lightened by transparency. The coloring molecules, neatly visible, were scattered here and there, but the diffusion of color had been produced concentrically around each of these molecules, thus forming a hazy spot. It was evident that the lines noticed had not been produced by the coloring substance.

Oblique lighting was substituted to direct light while we turned the preparation in the opposite direction. We then saw small furrows which stood out plainly when the side of the cell was parallel to the ray of light. We had under our eyes the micrograph given in Fig. 8, which reproduced an endless scale of green colors. The lines mentioned are plainly visible. These are the traces left by the workers, and prove that the cells are worked

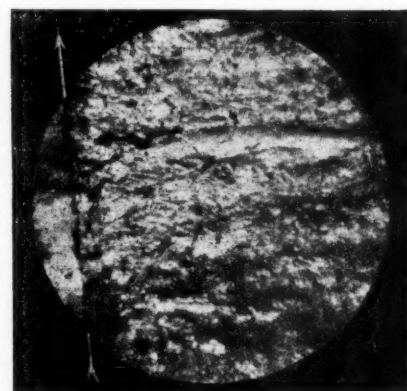


FIG. 8.—Part of wall of a cell showing the lines left by the work of the bees. Those lines are at right angles with the cell-wall indicated by the arrow—enlarged 45 diameters.



FIG. 6.—Intersection of three cells—section through the thin part on the line A B, Fig. 4.



FIG. 7.—Intersection of three cells—section through the middle of the lump on the line C D, Fig. 4.

given us the entire secret, since we have not yet noted the impress of the bee upon her work. The constructions built of green wax, much more

in a direction parallel to their base, and not perpendicular to it.

The building of the cell is therefore not due to the lengthening out of the

make previously while examining the section of the comb. Have we not seen the wax pressed out progressively from the center of the base towards the edges? The latter is thinned out in identical manner; then, under the continued pushing forward of the material sliding upon itself, the lumps have shown themselves presenting a clear, triangular cut upon the edge of the partly-built cell. Does not all this indicate that the erection of the cell upon foundation is simply a labor of *repoussage*?

While we have just noticed that the *drawing-out* of the wax could only pull it apart and render it unfit for building, on the contrary, here we see the wall of the cell become *hammer-hardened* under the action of this *repoussage* become compressed, and acquire, by this method, the maximum of resistance which it is capable of furnishing. There, as elsewhere, the honey-bee has selected the best process.—Translated by C. P. Dadant, from L'Apiculteur for March, 1911.

CORRECTION.—A very grievous error crept in the May number of the American Bee Journal. Mr. C. P. Dadant translated for us two articles from Foloppe Freres, taken from L'Apiculteur, of Paris. The cuts which should have accompanied the first article in the May number were left out, and cuts that belonged to the second article were inserted instead. We here reproduce the 3 cuts which should have accompanied the May number. If our readers will read over that article which describes the use made by bees of foundation containing too much, too

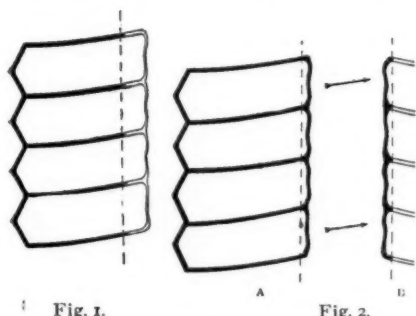


Fig. 1.

FIG. 1.—Thinnest Sheet. (Section of a finished comb. The cells could not be entirely finished out of the dyed wax contained in the foundation. The addition of natural wax by the bees is shown in lighter shade.)

FIG. 2.—Thickest Sheet. (A—Cells and cappings have been made out of the dyed wax of foundation. The excess of this wax has been carried over to the opposite comb B. B—Dyed cappings sealing a naturally-built comb. The wax contained in these cappings was gathered from the opposite comb.)

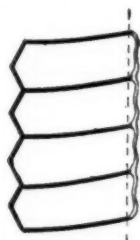


FIG. 3.—Medium Sheet. (The cells were drawn entirely from dyed wax in the foundation supplied. The cappings alone have been supplied by the worker-bees out of natural wax.)

little, or a sufficient amount of wax to build the entire combs, and compare with the cuts accompanying this correction, they will readily comprehend the meaning of them.

The cuts printed in the May number, and which were unintelligible to our readers, are now re-printed with the second article.

This essay shows minutely the manner in which the bees manipulate the foundation given them. It will be found very interesting, and shows profound study on the part of its authors. —THE EDITOR.

FAR WESTERN BEE-KEEPING

Conducted by WESLEY FOSTER, Boulder, Colo.

Poultry Systems, Bee Systems, Etc.

We see in all the papers and magazines advertisements of poultry systems and various other systems of making a sure thing of the various pursuits indicated, and at first one is apt to say it is much too strongly stated; but whether exaggerated or not, these systems all appear to me to be far in advance of the unsystematic methods of many farmers and gardeners. I believe the "systems" have their chief merit in bringing about an orderly manner of doing the work, and I wish that we might have a half-dozen or more of "sure winner" bee-systems. I think it would make for advancement in bee-keeping by cutting out a lot of false motions that so many go through with. There is so much in knowing all the schemes that will not work, for our success in anything quite largely lies in knowing what not to do. Some of us need to be told just what kind of a hive to use, where to place it, when to spread brood, when to give honey, when to put on supers, and when to take them off, that I really believe some of us could keep bees better by following a bee-system book than by trying to use our own eyes and brains.

Advantages of Co-operation

I wish that we might go to sleep for a hundred years or so, if by so doing we could waken with minds freed from warped conceptions of the righteousness of the competitive system. And still we need not go to sleep, either, for we have examples right before us of co-operative associations which are proving the wastefulness of a half-dozen men or concerns running around over the territory after the business that one man could easily attend to.

On our street are seen the wagons of 20 grocers, but we do not have 20 postmen covering the same route. Why is this? It is simply that competition has been eliminated from the postal business, and it still obtains in the grocery business. In Boulder, a consumers' store has been organized, 300 families having subscribed for stock at \$100 per share. A capable and responsible board of directors has been elected, and it appears to be starting in to do the consumers and producers some good in the sale of all merchandise. The stock is not to draw any dividends, but the stockholders are to buy goods at cost plus operating expenses. This is true co-operation, and will no doubt succeed if carried on honestly and wisely.

I never heard of a co-operative venture succeeding where the members were not enthusiastic advocates of the principle of co-operation. If you believe that men can do business better together than independently, and have

enough others with you who believe the same way, you can make a success of a co-operative honey-marketing and bee-supply-purchasing association. It requires a certain mental attitude to make a good co-operator. Such will talk more about "we" than he will about "I."

If you are a little doubtful about co-operation, get some books telling the story of co-operation the world over—you can find something about it in almost any library—and read about the way the thing is working. Dr. Lyman Abbott, who can not be charged with being exactly a Socialist, said that the "capital and labor" question would never be settled until the man who used the tools owned them. This means that we honey-producers must eventually own our sources of production of bee-supplies, and our means of distribution—the commission and distributing houses.

The farmer bee-keeper of a few years ago could go to the woods and select his logs and saw them into bee-hives for his own use, and he could sell his honey direct to the consumers, who were generally his neighbors. But now things have become so complex through specialization that such direct contact with the source of hive-supplies and market is impracticable if not impossible. Co-operation has for its aim the return to this direct relation between source of supply and distribution through the means of the co-operative association. Why should the bee-keepers be behind the farmers in laying hold of the means of production and distribution? The farmers own some 30 stores in Colorado at the present time, and they are fast multiplying.

Migratory Bee-Keeping

Migratory bee-keeping is certain to be resorted to more and more as the progress in our industry is made. And the ease with which bees may be moved will be greatly increased by simplifying our hives and hive parts. We must have a method of securely fastening the frames with one wedge; the cover should not be larger than the top of the hive, and the bottom-board would be better if it was the same. Hand-holes are a nuisance in moving, and should be discarded if much moving is to be done. The sawed-in hand-hole is sufficient for an 8-frame hive.

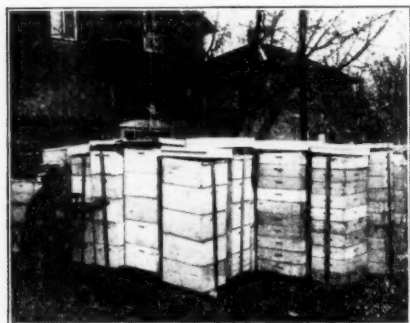
We have just loaded two cars of bees, and shipped them a thousand miles, and have learned a few points that may be of interest. If shipping in warm weather the screens must be arranged so that spraying can be done easily on each one. Some of the screens we used were placed over the entrance, and others were placed on top of the hives. The hives with the screens on top were placed on top of the hives

with the screens on the fronts. An alley was left lengthwise of the cars to make spraying easy.

The bees were loaded in but one end of each car, and the other end was loaded solid with supplies and braced in by 2x4's. No supplies were put on top of the bees, as we wanted everything free for spraying. A fine spray pump and a barrel of water kept everything cool when there was any need of a cooling off.

First, strips an inch thick and 4 to 6 inches wide were put on the bottom of the car, and tacked down so they would not slide around and get out from under the hives; then one tier of hives (about 60) was put in which reached to the doors. Each hive was blocked in separately by nailing the blocks at the corners of the bottoms into the strips the bottoms rest on. The entrances were facing each other so that the spraying could be easily done. When the first tier was in place 6-inch boards were put on top of the first tier of hives, and another tier of hives was put in the same as the first. We put in 4 tiers and a part of 5 tiers high.

There is one point that should be emphasized, and that is, have the hive bodies, bottoms and covers nailed to-



CRATING HIVES AND SUPERS FOR SHIPPING.

gether with a strip of lath at each corner, and then when blocking in, block each hive independently to the strips on which it rests, having these inch thick and 5 or 6 inch wide strips fastened so they will not move from side to side or end to end. Do not do any bracing against the hive-body, but let the bracing done by the blocks be against the bottom-board. If you should block in the bottom-board tight to the strips and then brace against the hive-body, you would very soon have the hive knocked off its bottom-board.

When the tiers are all in, then 2x4's should be run from the top to the bottom of the car, butting against the ends of the bottom-boards and the board strips that the different tiers rest upon.

The hives at each side of the alley must also be braced in so that they will not work over and fall into the alley space. It would surprise you, if you have never moved bees in a car, to see how hard they bump you at times. They broke two 2x4's for us at one time.

Use lots of nails, and do not guess that everything is strongly enough braced; it is better to know that everything is solid.

BEE-KEEPING IN DIXIE~

Conducted by J. J. WILDER, Cordele, Ga.

Southern Bee-Keeping vs. Northern

It is a very common thing for one who has always lived in one section of the country to fail to comprehend the difference between circumstances there and those of other sections, especially where the climatic conditions vary greatly, and that is as true with bee-keepers as with any other class; hence, we see bee-keepers of the North failing to understand the conditions for successful bee-keeping in the South, and *vice versa*; and it is naturally very difficult to explain the conditions of widely different sections so that people whose experiences have always been in one, or in a few similar localities, can understand perfectly. This is unavoidable; for the mind must use its past experiences as a stand-point from which to project the imagination, and a light by which to understand every new thing that is presented to it. I have been considerable of an illustration of this principle myself, and my experience may possibly benefit some others, if I can give it aright.

I lived in the North, mostly in Iowa, where the wintering problem was, and still is, one of the most difficult that a bee-keeper has to contend with. In my locality (Washington Co.) there was practically every season some surplus honey to be obtained if one had the bees in storing condition when the honey-flow came, and if weather conditions were always favorable it would be a very fine locality for honey, for when all things "hit right," we had a very rapid honey-flow for 6 weeks, from white clover and basswood, and a fairly good flow for about 4 weeks from heartsease. When running for extracted honey, as I did mostly, there was no excessive swarming, and when comb honey was produced the honey was quickly made and easily preserved from insect pests, and all surplus combs kept through the winter were free from wax-worms if kept where the moth could not reach them; but the expense and trouble of caring for the bees through the long, cold winter, and the difficulty of having them ready to gather the nectar when it came, is a great drawback which is liable to make the bee-keeper think that all he needs is warm weather and flowers.

In 1888, I first came to this State, locating at Dalton, in the northwestern part, having found it, as I thought, an ideal honey locality, as there was a great variety of honey-plants, which, if they had yielded well, would have given an almost uninterrupted flow the entire season. I had read from some writer from Atlanta, that it did not pay to keep bees in North Georgia, but I just laughed, for I thought I knew better; but after trying it for 5 years, and never getting a crop of honey to come up to my poorest yields in Iowa, I began to think differently. I lost a good many

of my bees from slow starvation—they would gradually dwindle away while there were plenty of flowers and plenty of rain, and it required lots of feeding to keep up my apiary at all. I then moved to this place, after I had looked over this and some other localities, and talked with a good many bee-keepers, besides examining the bees, for I knew that they, at least, would tell me the truth when rightly interrogated.

Everything seemed favorable for great success, but when I came to try it, I found things were not altogether what they had seemed, for while some colonies did store as much as 100 pounds of section honey in a season, it was much more exceptional than I expected, for the bees were very prone to swarm, even when run for extracted honey, and there were few colonies that did not waste a large part of the honey season in excessive swarming. I saw that *locality* had much to do with that, for I had exactly the same strain of bees that I had in the North, and had bred them from the non-swarming ones until I thought I had almost established a non-swarming strain; but when I brought them here, such swarming, I think, few Northern bee-keepers ever saw! I sometimes had a dozen or more swarms in the air at once, and for several days in succession, some seasons, and what was worse, the bees would often not stay hived on comb foundation, full frames of comb, or with brood, and after-swarms could not be prevented with any certainty; but while such things are the case in one apiary, another only a few miles distant may have no such trouble, and the same apiary does not do that way every season, but only when there is a great abundance of thin nectar, as I notice the nectar here is generally thinner and requires longer time to ripen, so that bees require more ventilation than I thought necessary; but we are getting wiser all the time, and when a strain of bees is used that are good at ripening our thin nectar, they are not so prone to swarm excessively, and the bee-keeper can therefore manage more of them, as here the wintering problem is only a question of sufficient stores in a "respectable" colony of bees.

It pays to queen here oftener than in the North, for I have never known a queen to live longer than 4 years, and she is often missing after the second year. As the season is so long here, and the time for building up for the first flow of nectar also long, it is easy to have the bees in good condition, but the queens need to be looked after, and the hives repaired, for they rot here much sooner than in the North; and all combs must be kept where the bees can take care of them, for wax-worms will destroy them even in the winter time.

Here the season's work with bee-keepers, as with farmers, commences

the 1st of January and ends the 31st of December; but there need not often be any great hurry unless one gets behind with his work.

Bees get pollen here, generally, in every month of the year, and, of course, consume stores rapidly while breeding, so that the early sources of honey are appreciated, and appear nearly everywhere in this State; and although the readers may have read a good deal about the honey resources of South Georgia, it may not be amiss to mention some of them again.

There are many minor sources of honey, but after fruit blooms the first storing is sometimes done here from black gum (*Nyssa biflora*), and in places corn-itch vine (*Tecoma radicans*), which are of short duration and bloom about the last of March. Further south the black tupelo gum (*Nyssa uniflora*), and the early ty-ty (*Cliftonia monophylla*) give a much better yield and earlier, and are closely followed by the white tupelo gum (*Nyssa ogechee*), which is said to be a very rapid yielder for about 10 days.

About the first week in April the holly (*Ilex opaca*), blackberry and poplar (*Liriodendron*) all come into bloom here, and yield pretty rapidly for about a month, closely followed by the gallberry (*Ilex glabra*), a fine yielder of the best honey for about 2 weeks, and in a few places the white holly (*Ilex myrtifolia*), and these are followed in most places by the late ty-ty (*Cyrilla racomiflora*), which comes in June here, and lasts about 3 weeks, after which there is nothing that will yield surplus, but many things that keep the bees from being very idle, and one of these (*Ampelopsis arborea*) is a vine of the grape family, may yield a little surplus. Cotton commences about July 1st, and continues to yield something—it depends upon the kind of bees and the weather how much—for the rest of the season.

In places, and perhaps nearly the whole of southeast Georgia, the saw palmetto (*Serenoa serrulata*) abounds, but I think it is an uncertain yielder, while nearly all of the others that I have mentioned rarely fail entirely, and there are many localities where nearly all of them abound, so that south Georgia may be considered as affording as safe places to keep bees, especially, and, at least, a fair amount of honey every year, as anywhere in the United States.

All the honey produced in this region is at least fairly good, as compared with the average honey of the North—the worst is the poplar, which is dark, and does not sell very well for table use after it is kept a month or two.

We have never had honey-dew here to any damaging extent. Here we never have a heavy yield, and never a total failure so as to have to feed—except sometimes a few weak colonies.

I am not sure that we have found the best bee for this section, but we are coming at it, and you may hear from me later on this subject; but it is not the same strain that is best for Iowa, for we must have a bee that will keep up sufficient brood-rearing through the long summer, or we will get no surplus honey from cotton.

The conditions here of many sources of honey—often several different kinds coming in at the same time, and often short cessations of the flow, and seldom a very rapid flow, so that it has usually to be left on longer, and as propolis is very plentiful, it is impossible to prevent travel-staining of a large part of the crop, which makes it a poor place for section-honey production, notwithstanding that bees produce wax and build comb rather more readily than in the North, and much of the wax-secretion is involuntary—they use a large amount in building brace and burr combs, so it is best always to keep them with a little new comb to build.

Bulk-comb honey will certainly pay better here than section honey, for we must have a convenient way of keeping our honey in a marketable condition after we get it, which is hard to do with section honey, the finest of which comes early, and unless disposed of immediately will keep one in anxiety until sold, on account of the numerous and ever-active insect pests. Some bees will not ripen cotton honey so that it will keep liquid in sections, but extracted cotton honey is all right, even if candied, which it is sure to be soon after extracting. Bulk-comb honey in the North will not likely find much favor on account of candying, but extracted honey is all right everywhere—where people *think* rightly.

Leslie, Ga. T. W. LIVINGSTON.

Apiary Work for June

The honey-flow from cotton will come on next month in the great cotton belt of the South, and this month's apiary work is of vital importance, for the bees should be made ready for the harvest, which will begin slowly next month.

In our last month's apiary work we endeavored to set forth the great importance of obtaining and introducing better stock of bees in our apiaries, and removing all surplus honey, etc. Now we are ready to look into the brood-nest and start bee-production.

At this season of the year there is, in most locations, a great supply of pollen, which the bees are carrying in along with a little nectar, and the weather is settled and warm, making conditions ideal for brood-rearing, and if the queens are prolific, they will get active at once, after the slack from the spring flow.

But at this season of the year the brood-nest is usually crowded with honey, especially in comb-honey apiaries, for when the spring honey-flow began to pass off, the queens slacked in egg-laying, and the bees crowded in behind them, filling the combs with honey, and the queens can never highly populate their hives again until next spring, by which time the bees have eaten away this bulk of honey, and the queens can occupy this comb again. Now, this honey should be removed, one or two frames at a time, and extracted, and the comb inserted into the middle of the brood-nest, or exchanged in some way for empty combs, so as to give the queens the use of them again, and as fast as she will fill them with eggs give them to her, and in this

way produce the bees for the approaching flow.

Of course, precaution should be used, and not all the honey extracted from the brood-nest, for the bees might run short of stores and have a set-back before the flow came on. The usual rims of honey around the frames of brood should be left, where it is not too deep.

If any colonies have run short of stores on account of being weak during the spring flow, these frames of honey can be given them and they built up to strong colonies during the honey-flow, by constantly spreading the brood-nest, inserting empty combs in them, and if the queens are not stimulated enough from the frames of honey given to occupy them readily, a little feeding can be done.

It is yet not too late to introduce better stock, and a good time to get ready to transfer from box-hives during the honey-flow from cotton, or buy bees and establish apiaries, etc.

Editor E. R. Root in Dixie

Mr. E. R. Root, editor of *Gleanings in Bee Culture*, spent several weeks in Dixie during February and March, and while here touched at many points in visiting bee-keepers, and it was a rare treat to us, who had the pleasure of meeting him, and having a face-to-face talk with such a noted editor. He touched at this point last on his return to Medina, and expressed himself fully as to what he saw of bee-keeping here, and of its future, and was surprised to find so many of us so extensively engaged in bee-keeping, and how we operated with such a small amount of labor. Well, it is this way with many of us:

Our first honey-flow comes the latter part of February, and the last flow goes off in November, with perhaps a few days, or may be 3 or 4 weeks, intervening between some of the flows during this time. So we have over 8 months to harvest and market a crop of honey. Then, too, in most locations we never have an overwhelming crop of honey, owing to the honey-plants being scattered, etc., the average being about the same, year after year. So we don't need so much help, but we need it for a longer time.

Editor Root was also surprised to know what serious problems we were often confronted with here, some of which came under his own observation while here, that he had never heard of before, of which we shall know more later.

Another thing that seemed to surprise Mr. Root, was that our queens occupied the comb right down to the entrance, even in cool and changeable weather, seemingly in preference to that in the remote parts of the hive. This scores another point in favor of ventilation, which we so strongly advocate.



This fine 00c Honey-Spoon and the American Bee Journal for one year—both for only \$1.75. Send all orders to George W. York & Co., 117 N. Jefferson St., Chicago, Ill.

American Bee Journal

DR. MILLER'S



ANSWERS

Send Questions either to the office of the American Bee Journal or direct to
DR. C. C. MILLER, MARENGO, ILL.
He does NOT answer bee-keeping questions by mail.

McEvoy Treatment of Foul Brood

What is the process for remedying foul brood by what is called the "McEvoy System?"
NEW JERSEY.

ANSWER.—Here is the treatment as given by Mr. McEvoy:

In the honey season, when the bees are gathering freely, remove the combs in the evening, and shake the bees into their own hive; give them frames with comb foundation starters on, and let them build comb for 4 days. The bees will make the starters into comb during the 4 days, and store the diseased honey in them which they took with them from the old comb. Then in the evening of the fourth day take out the new combs, and give them comb foundation to work out, and then the cure will be complete.

Burr-Combs—Division-Board Warping

1. Should burr-combs be cut out from between frames when they appear?
2. Will bees tear them down as they do queen-cells?
3. What is the cause of the light division-boards warping, which come in the hives?

CALIFORNIA.

ANSWERS.—1. It is better to cut them out every year or two, as they are in the way, and make it difficult to crowd the frames together without killing bees.

2. No, the bees never clean out burr-combs, and the presence of any of them between frames seems to be an invitation to the bees to build more. On the whole, it may pay to clean them out every spring.

3. Likely because made of basswood, as I have had some of that kind. Basswood is not fit for any part of a hive except sections. Too warpy.

Keeping Empty Combs Over Summer

I have a lot of honey-combs that I will have to keep through the summer months. What is the best remedy to keep the moths out of them? I have them packed closely in a chest. Will fumigating them with sulphur do, or is bi-sulphide of carbon the best?

SOUTH CAROLINA.

ANSWER.—Sulphur will do, but it takes a great deal of it to finish the big worms, and it does not kill the eggs, so that it must be used again two weeks later to kill the worms that have hatched out from the eggs that were left. Carbon disulfide (which is the later name of bisulphide of carbon) acts more vigorously, and at one operation cleans up big and little eggs and all. After you have the worms all killed you must keep the combs where the moth can not get at them.

On the whole, it is nicer to give such combs to the bees. They will clean them up and keep them in nice condition. You can fill a hive-body with them and put it under a colony, so that the bees must pass through in going out or in.

Super Management for Most Honey

1. Do you consider it best to take the super from the old stand in which the bees have commenced to work, and place it on a new hive in which the new swarm has been hived, such hive having 2-inch starters in brood-frames?

2. I understand that if this is practiced the bees in the new hive will store the honey in the supers, and that the queen can occupy the brood-combs in the meanwhile without being rushed; but if the colony would not be able to store enough honey in the brood-chamber for their own use, would it be best to leave the full super on, or remove and feed syrup until they have enough stores? Give any other advantage, if any, gained by this practice.

IOWA.

ANSWER.—You will probably do best to put the swarm on the old stand, removing

the hive to a new stand. That will throw all the field-force into the swarm, and it will give more surplus than both will give if the forces are more evenly divided. There will be no need to feed. You may take the partly filled super from the old hive and put it on the new one if you have a queen-excluder under the super. If you put it on right away without an excluder, there is danger that the queen will go up and lay in the super. If you do not use an excluder, do not give the super to the swarm for 2 or 3 days, or until the queen has made a start at laying in the brood-chamber. Do you think you are rich enough to afford to use 2-inch starters in brood-frames? It is better economy to use full sheets of foundation.

Keeping Swarming Down

I have 18 colonies of bees, but have not had much experience with bees. I want to run for comb honey and not much increase. I am going to hold swarming down the best I know how. If a swarm comes out, if I go in and cut out all queen-cells but one, return the swarm and catch the old queen, would they be likely to swarm again? How can I keep them down so as not to make much increase?

NEW YORK.

ANSWER.—Your plan will work all right generally, only you might not leave the best cell, and there is a bare possibility that you might leave a cell with a dead grub in it. There is a way that is a little better and surer. Return the swarm, remove the queen, and leave the cells untouched. Then a week later begin listening each evening after the bees stop flying, by putting your ear to the side of the hive. When you hear the young queen piping, go to the hive the next morning and cut out *all* cells. That's all. It will be less trouble if the queens are clipped. In that case catch the queen as she hops out on the ground, and the swarm will return of its own accord.

Italianizing Colonies—Introducing Queens

I have a few colonies of black bees that seem to be weak, though they are beginning to carry pollen. Would it not be better to wait until later in the season before I attempt to introduce Italian queens. Should I not catch the old queen and destroy her before I send for the new one? I have heard there is less danger of having the queen killed when she is introduced, if the colony has been without a queen for some time. Should the queen be clipped before she is introduced? I see Dr. Miller advises it. Will you kindly let me know what I am to do? I want to send for 2 queens at the proper time.

NEW JERSEY.

ANSWER.—You will probably do as well to wait until some time in June. Better not kill the old queen till the new one arrives. There may be considerable delay, and it is not well for the colony to be too long queenless. You can have the same, or a greater, advantage by keeping the new queen caged in the hive 2 or 3 days before allowing the bees of the colony access to the candy to liberate her. Most bee-keepers nowadays prefer to have queens clipped, and most of those who sell queens will clip them before sending, without extra charge, if you so request.

Foul Brood Contracted by Colonies

In November, 1909, I sold 2 colonies of bees to my niece living in Bellefontaine, some 18 miles from here. They wintered well, and I think both stored some surplus honey the next summer, one of them swarming.

Last February, some 15 months from their removal, the 2 old colonies were found dead; samples of comb, etc., were sent to Dr. Phillips, Washington, D. C., who pronounced them afflicted with foul brood of the American variety; the "swarm" is still living.

Now, bee-men in Bellefontaine think these

bees were affected before their removal, and that the disease originated in my yards; but I know of no trouble among my bees, not having lost a colony for several years, nor have any of my neighbors, except we hear of two or three in the country which have evidently died from starvation.

Bellefontaine being a much larger town than this, has many colonies of bees that are not observed by bee-men, and could more easily have the trouble and it not be known. In which place did they most likely contract the disease?

OHIO.

ANSWER.—One can only make a guess, and unless the case were very far advanced it would look more reasonable to suppose that the bees became diseased after removal.

Wax-Moth and Comb Honey

How do wax-worms get into supers of honey, generally? Are not the eggs deposited before the super is taken off? or is it by careless exposure in the honey-room to the moths? I pack away my supers of honey as fast as taken off, in large boxes with papers on, burlap between, with a close cover to each box, and each box made moth-proof at the start. When I have time at the close of the season I overhaul and examine every super, and take out any that show signs of worms. However, I don't get many wormy ones.

WISCONSIN.

ANSWER.—I don't know. It hardly seems possible that a moth would make its way up through a strong colony into a super and there lay its eggs; and yet there seems no other way to account for worms there. You may seal up the super moth-tight immediately on taking it off, and yet two weeks later you may find the little worms present. The kind of bees have much to do with the case. Years ago, when I had black bees, I made a regular practice of brimstoning all my sections or there would be lots of trouble. Since having more or less Italian blood in all my colonies, I never fumigate sections of honey, finding no need of it.

Hive for Farmer Bee-Keepers

1. For a farmer bee-keeper who can not devote much time to bees, and wants to keep down swarming, do you consider the 10-frame hive with deep frames above (same as lower hive-body) better for the production of bulk comb honey than the shallow frames? (I might add that, so far, I have had demand right at home for all the bulk comb honey that I have been able to produce, some even wanting it cut out of sections rather than take a section of honey for a pound.)

2. Is it necessary to use a queen-excluding honey-board between the two hive-bodies?
3. If so, is the wood-bound zinc board better than the unbound zinc that is placed directly on top of the frames?

4. What do you think of the 10-frame hive compared with the 8-frame for my use?

MISSOURI.

ANSWERS.—1. For the upper story you will probably like the shallow frame better; but with very strong colonies there will not be much difference.

2. I'm not sure about it, but as there are no old combs above, and fresh foundation to be filled each time, I would guess that there would not be any great need of an excluder.

3. The wood-bound with slats keeps its place better. Some, however, use the unbound sheet.

4. You are wise to use the 10-frame.

Keeping Extra Queens Over Winter—Managing 3-Frame Nuclei—New Jersey as a Bee-State

1. How do you winter a number of queens which were not used in the previous summer? For instance, a number of queens are reared by Doolittle's method of grafting, and after introducing all that the apiary requires, a number are left at the end of summer. Now, of course, when queens get together they fight, so each must be kept by itself. What method is employed for keeping them until wanted?

2. I have received a shipment of 3-frame nuclei with queens, and upon arrival placed 3 frames in an 8-frame hive, and as I had no drawn combs I put in 5 other frames with full sheets of foundation. I had no frames of honey to spare from other colonies, so I started to feed sugar and water, equal parts (at night), and contracted the entrance to about $\frac{3}{4}$ inch in width. Did I do right? The spring has been very backward here in Jersey, but the soft maples are coming out

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nicely now. How long will I have to feed them? I have never had any previous experience with 3-frame nuclei. Sugar is dear when you have to feed 6 or 7 colonies a pint of syrup every night.

3. What do you know of New Jersey as to location for the production of honey? Buckwheat is not very plentiful, but we have an abundance of wild aster, golden-rod, Spanish-needle, and lots of fruit-trees in this locality.

NEW JERSEY.

ANSWERS.—I. I don't know of any way to keep a queen through the winter without having quite a lot of bees with her. The farthest I have ever gotten away from keeping each queen with a full colony of bees was by keeping 3 nuclei in one hive, and wintering them in the cellar. The nucleus in the center had only one Langstroth frame, and each of the others had 3 frames. It is possible that smaller frames might be used, and also a larger number of nuclei in a hive. With 3 nuclei in a hive, there was an entrance at each side in front, and for the central nucleus there was a 1-inch auger-hole at the back.

2. Yes, although it would have been better for the nuclei if you had taken frames of honey from strong colonies and then fed the strong colonies. The entrance might be only half as wide, until the bees seemed too much troubled with so small an entrance, being gradually enlarged as needed. It would be full as well, probably, if you did not feed them again at all, provided you could give them enough at one time to last until they could get plenty outside. It is better to let them have a good stock on hand than to feed each day just what they will consume. If you supply only their daily needs, you may have to keep it up until white clover yields, which, in your locality, this year may not be very much before the middle of June. Possibly, however, you may not have to feed after fruit-bloom or dandelions abound.

3. I don't know very much about it, but have always supposed it an average State as to bee-pasturage.

A Beginner's Questions

1. Do bees use pollen for anything besides making bee-bread?

2. I have heard a great many say, bees live only 30 days. What do you think about it?

3. I have a colony that produced no drones last year, and have not yet so far (April 17th). What is the cause?

4. In warm weather, when the bees are fanning, do they do that to get the water out of the honey, or to cool the hive?

5. After brood hatches out about how many days will it before the bees go to work?

5. Last summer, some days when the bees would come out of the hive and start to fly away they would fall on the ground and go round and round and die in a minute. Do you think they got too hot, or what was the trouble?

KANSAS.

ANSWERS.—I. I don't know, but little of it is used in sealing up the brood.

2. Worker-bees live several months if born late in the season; for they live over winter and until new ones are ready to take their place in the spring. Those that are born after the busy season begins in the summer, live 5 or 6 weeks.

3. It is possible that they do not desire to swarm, do not feel the need of drones, and have not much drone-comb in the hive. You may consider yourself fortunate in having such bees.

4. Both; but perhaps more than either to get fresh air into the hive. Bees seem to have a notion that pure air is a fine thing, summer or winter.

5. May be one.

6. It might be poison, paralysis, or there may have been some other disease.

Hives for Building Up—Getting Bees Out of Supers, Etc.

1. My frames are about 9 inches square, inside measure. I have some small hives that hold 4 and 5 frames each. Will they rear strong queens if given eggs? These hives are used to build up.

2. If I put in a shallow extracting super until nearly full, then put a T-super underneath, slip it forward and put 1-inch blocks under the front of the brood-chamber, will it work all right and prevent swarming also?

3. If I stack up 10 or 12 T-supers from the different hives on one colony with a Porter bee-escape underneath, will it work all right? Will the bees eat through the cap-

pings? How long will it take them to come out? If this is not all right tell me how to manage. What time during the day must the bee-escape be put on?

4. In question No. 2 I expect to use a guard and wire honey-board with the extracting super. When the T-super is placed underneath, will it be best to remove the honey-board? I have never had a queen lay in a T-super, but have never used the extracting super with them on the same hive.

KENTUCKY.

ANSWERS.—I. A hive containing 4 or 5 frames, each 9 inches square, would not hold a very strong colony, and a queen reared in it would not be so good as one reared in a strong colony, at least up to time of sealing the cell. After the queen-cell is sealed it is not so important that the cell be in a strong

colony, and in hot weather it will do very well to be in a nucleus.

2. It will work all right, and will help to prevent swarming, but it will not be a sure thing.

8. I hardly think the bees will gnaw the cappings, but they may be several days in getting out; at least that would be my guess. Besides, you would hardly want all the bees in 10 or 12 supers to be given to one colony. Better have an escape for each colony, or else use it in turn on the different hives; although it may do well enough to take a super or two from one colony and give to another.

3. You may leave the excluder on the hive when you add the T-super, or you may remove it. There is little danger of the queen going up if you remove it.

REPORTS AND EXPERIENCES

Bees and All "On the Jump"

Bees are keeping us on the jump. I never knew them in better condition at this time of the year. There is more dandelion and fruit-bloom than they can take care of.

Marengo, Ill., May 13. DR. C. C. MILLER.

Early Honey on the Market

The first new orange-blossom honey arrived here from Porterville to-day, which is early. Twenty-five cases of new honey sold readily at 6 cents per pound for white. It is the highest price in years, as the market is clean of bulk.

GEO. O. PARISEN.
San Francisco, Cal., May 15.

Appreciates the American Bee Journal

The "old reliable" American Bee Journal has been a great source of pleasure and profit to me for the past 16 or 18 years, and many a time a single copy was worth (to me) more than the price of a whole year's subscription.

WM. H. BOECKEL.
York, Pa., May 1.

Bad Spring for Bees

We had a bad spring for bees. I lost 13 colonies after I put them out of the cellar with plenty of honey; but it has been cool and cloudy most of the time. I still have 34 colonies left, and they are very strong in bees and honey. The prospect is good, if the blossoms on the trees don't freeze.

L. M. SLABA.

Buffalo Center, Iowa, May 1.

A Normal Honey Season

This is a great May. Winter jumped suddenly off the lap of spring in the early days of this month, and all vegetation is putting on its best clothes. All fruits bloomed full—now about over—and dandelions are yellowing the pastures and roadsides. The only thing to make a bee-keeper blue are too many windy days, when bees with difficulty reach the honied mines.

Bees went through the winter fairly well, and are building up nicely. Everything indicates a normal honey season.

EUGENE SECOR.

Forest City, Iowa, May 18.

A Queen Experience

Last Saturday (April 15) I ventured out with the bees between showers, and on passing by a colony that had cast a swarm only 2 days before, my attention was called to the piping of the queen, so I just stooped low to be sure that the piping was in this colony. This was about 8 a.m. She would pipe perhaps 18 or 20 times, and then stop short, and perhaps in 10 minutes she would pipe again, and she kept it up until 11 a.m., when I left for the house, thinking perhaps it would cease raining in the afternoon, which it did.

I said to myself, "There is something wrong with this colony." So I went back,

thinking that it was the swarming note, so instead of waiting for a fair day to let them swarm naturally with the chances of losing them, I divided them, and they are both satisfied and "working like mad." The colony had 16 brood-frames in it, giving each 8 frames.

I found 2 queens, 2 queen-cells capped, and 9 queen-cells uncapped. I used the queen-cells that were sealed, in other colonies, and both were accepted. On taking out the frames on the side I found that the bees had built out to the side of the hive to allow cells to be built, and there I found 3 worms $\frac{1}{4}$ of an inch long. So now I think all will agree with me when I say that I do not think it was so much a swarming note as it was a distress signal, for the bees did not give me any trouble.

W. R. CUNNINGHAM.
Rayville, La., April 19.

Cleaning Creosote from a Bee-Smoker

A way to clean the creosote from a bee-smoker, which I find is very good, is to fasten a rag on the end of a stick and clean it with hot water. I thought I would give this, as there is probably more than one who is puzzled about cleaning the smoker. It might be of some benefit to anybody who wants his things neat and clean.

MASTER THOMAS LEACH.

Sunol Glen, Calif.

[This will work all right if the bee-smoker has not been used much, but a veteran smoker will need some soaking.—EDITOR.]

Texas as a Bee-State

As to the Texas report on bee-keeping, as given by Wm. E. Curtis, in the Chicago Record-Herald (see page 136). I would say that Bee Co., Tex., was named in honor of Gen. H. P. Bee, who served in the war with Mexico.

I also wish to say that there is no truth in Mr. Curtis' statement that one man at Beeville owns 8000 colonies of bees; and there is not a factory in Texas that manufactures bee-supplies, except in a small way, or for the manufacturer's own use; although Texas stands at the head of all the States in honey, and should have can factories and bee-supply factories, too.

G. F. DAVIDSON.
Big Foot, Tex.

Hive Covers and Bottoms

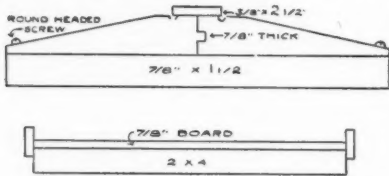
In the February American Bee Journal I note the illustrations of Mr. Scholl's hive-covers and bottoms, so I will describe those I use, which I think are a great deal better.

When I began bee-keeping I could not find a cover that suited me; those sent out by the manufacturers of bee-supplies, which have the top boards fitted into a groove in the end cleat will soon rot out on account of water penetrating the joint; this is also the objection to Mr. Scholl's cover. So after much thinking over the matter I decided on this:

I go to the lumber yard and get stuff the right width to work out one inch wider than the hive, using 2 pieces. Take it to the planing-mill and have it tongued-and-grooved the same as flooring. Then one inch from the edge I have a little groove cut, about $\frac{1}{4}$ inch

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wide and $\frac{1}{2}$ deep; then about an inch from that begin to level and run down to $\frac{3}{8}$ inch thick at the outer edge. This I cut to length 2 inches longer than the hive. Then take a piece of $\frac{7}{8}$ by $1\frac{1}{2}$ inch stuff and nail the two pieces on it, putting the matched edges to-



gether with lead and oil. Then get a thin piece for a ridge-piece, wide enough to come to the center of the little grooves. At each corner I put a $1\frac{1}{4}$ inch No. 9 round-headed screw; this keeps the edges from curling up. A nail would pull out, but the screw does not.

I have some that have been in use 4 or 5 years, that are as flat as ever, and there is no obstruction to prevent water running off, and no joints for it to soak into and cause decay.

For bottoms I make concrete blocks, the width of the hive and 3 inches longer by 2 inches thick, and cut out of $\frac{7}{8}$ -inch stuff pieces $\frac{7}{8}$ -inch wide at the front and $\frac{3}{4}$ at the back end, for the sides of the hive to rest on; also a piece $\frac{3}{4}$ thick to fill in at the back end. Use these pieces on the blocks to set the hive on. I don't use any bottom-boards. This gives a good entrance $\frac{3}{4}$ deep by the width of the hive. These blocks cost about 15 cents each, and will last always, and do not furnish a hiding and nesting place for mice, spiders, and other pests.

When I use a wood bottom I get a board the width of the inside of the hive, and 2 inches longer (or get 2 narrow ones), and nail a 2x4 at the back end, and one 3 inches from the front, then nail a board of $\frac{7}{8}$ by $2\frac{1}{2}$ or 3 inches around this on the 2 sides, and at the back end, letting it project up as far as I want the depth of the space under the frames. This also prevents water getting into joints, as in Mr. Scholl's hive-bottom. The 2x4 blocks keep it a nice distance from the ground.

L. C. ROUSSEAU.

Waxahachie, Tex.

Bees Wintered All Right

I had all my bees in the cellar the past winter. I put them in Oct. 27th, and they were in the cellar until about March 25th, when I took out 10 of the 10 colonies, and they had wintered well in a cellar where we have potatoes. It is under the house. The bees had a flight the same day, then it became cold for about 2 or 3 weeks, so I put them back in the cellar, and they remained there until about April 10th, when I carried them out again. Those that had not been out I took out a few days afterward, so I had all my bees outdoors by the middle of April. I lost 2 colonies out of 10. The bees wintered all right. One colony had not more than 15 pounds of honey last fall, but is in good condition now.

We had snow here yesterday, and a little cold, so the bloom on the trees is damaged; but the dandelions are out.

ALGOT B. BERNSTON.

Bagley, Minn., May 12.

Do Bees Move Eggs?

Well, well, well, I should say they do, and I can not understand why all bee-men of experience have not seen that proven to their entire satisfaction.

I have just read Mr. Robinson's article (page 110), and agree with him all the way through, as I have seen just such evidence of bees moving eggs and larvae.

Many years ago—long before I learned that queen-excluders were honey-excluders as well—I gave a super of dry combs to a strong colony to prevent swarming, but placed a queen-excluder between it and the brood-nest, and was surprised a week later to find several fine queen-cells on the combs over the excluder. There were no other larvae or eggs in the combs.

I have long since learned not to use the word "never" in speaking about the doings of bees, but I am quite sure I would be safe in saying that good queens never lay in queen-cells. Certainly I have seen eggs in queen-cells, but I have never seen a queen lay in queen-cells, although an old or failing queen may do so.

I wonder that a man like Mr. Abram would

say that an egg can not be moved from where the queen put it without ruining it; perhaps he never tried it, and was only guessing at it.

And now, while I am about it, let me advise all bee-folks never to guess at bees or their work. If you do, you may "get left."

As many of the readers of the bee-papers know, I am an old queen-breeder, and have grafted many eggs into artificial cell-cups, and instead of them falling out or being thrown out by the bees, they have turned out to be the mothers of many fine colonies.

Now, if I with my clumsy fingers and instruments can transfer eggs without ruining them, why can not the bees, with their delicate mandibles, do the same?

Yes, bees can and do move eggs and small larvae, and I have good reasons to believe that they sometimes steal eggs from other colonies with which to rear a queen.

San Benito, Tex. GRANT ANDERSON.

Cold and Wet Spring

Bees went into winter quarters in rather poor shape in this section last fall, and we are now having a cold, wet spring, which is causing the loss of many colonies. There is no bloom as yet, except elm and peach. Clover, however, looks fine. JNO. S. COE.

Boyce, Va., April 23.

Apiary of Ulysses Adams

The picture herewith shows a part of my apiary with myself holding a 6-section frame of honey. The tree at the left is a large cherry, and the one to the right an apricot.



APIARY OF ULYSSES ADAMS.

The limb projecting above is part of an old plum tree. I am 73 years old and have poor vision, but have managed my apiary of 93 colonies alone. ULYSSES ADAMS.

Missouri City, Mo.

Bee-Keeping in the Ozark Mountains of Missouri

I would be glad to tell what we of the Ozarks of Missouri are doing in the way of apiculture, although you seldom hear from this section—one of the best in the State for the production of either comb or extracted.

Mr. J. W. Rouse, of Mexico, Mo., says that the statistics quoted by himself as taken from the (old) Report of the Bureau of Labor, are a pretty good showing, taking into consideration the general output of the United States. That report is made up by the railroads, taken from their shipping records, and, of course, only that which is shipped directly from one county to another is taken into account.

There are thousands of pounds of honey produced in the State of Missouri, of which no record whatever is kept. Much of it is sold to neighbors of the apiarist who are afraid of bees and in the smaller towns along the railroads, and at good, round figures, too, for this section of country is

blessed by Nature with an abundance of honey-producing plants and trees, besides the favorable climate, making it unnecessary to place bees in cellars, feeding in spring or fall, or to protect in spring on account of spring dwindling—things which we only "read about" even in the northern part of the State, and look upon with amazement and wonder "how it is done" just a little further north.

It is true that this part of the country is sparsely settled, fortunately for the up-to-date bee-keeper, who with modern ideas and modern hives, and Italian bees, wishes to produce the "real thing" in the way of honey. In my position, with practically no competition, and 400 acres of land of my own, besides section after section of land on each side of me, the nearest neighbor who even pretends to keep bees being from $3\frac{1}{2}$ to 4 miles distant, it looks as if such a range of wooded lands and a plenty of clear running water from innumerable springs should produce honey—hey?

At this date (April 10) my colonies are ready for the supers, built up strong and chock-full of brood and honey, and all I have to do is to alternate, put the lower brood-chamber on top of the upper, and the supers will receive a welcome from the bees. During the past winter there was not a week at any one time when the bees did not have a flight, wintered on the summer stands, and without any protection whatever, frequently flying every day.

While I am a beginner (out here) so far as starting up a new apiary is concerned, I have been a resident of this section of country for the past 4 years, and for 20 years interested in apiculture. The other men along this line are of a class who are against new ideas altogether. They keep their bees as their grandfathers did—in box-hives and gums. If they get any honey they take it for their share as contributed by their bees from Nature's storehouse, and eat it or sell it at the country store in exchange for fat meat (which few put up in winter) for their family use.

For the past 30 or 40 days the woods and fields have been literally carpeted with wild bloom; followed afterward by the peach orchards, then the pears and apples; now the wild pansies, violets, phlox, verbenas, dogwood, plums and wild cherry, besides innumerable bloom with which I am not yet familiar. After these come the catnip, "British tea" sumac, wild raspberry, blackberry, etc., all in readiness to give a good yield of honey. Then the white and red clovers, the former all along the roadsides (the latter in the orchards), and sage, wild grapes in great profusion, and Japan clover, which seems to be taking the country.

Later in the season for fall honey we have a profusion of aster bloom, heartsease, golden-rod, etc.—a "continual profusion" for the bees from March 1st to Nov. 15th at the latest, when we stop manipulating and let the bees gather enough stores for winter. An apiarist has to hustle during much of this time, but by proper manipulation of hives, frames, and sections, he can "make good," and increase without troubling the flow of honey, for a swarm in May will build up to a strong colony by August, and produce surplus, besides.

It seems funny to read of getting ready—colonies built up strong for the "honey-flow," which lasts only a few weeks at best in Northern climates. Almost as funny as to hear these old farmers speak of this country not being fit for bees, when, if they would burn up their old boxes and give the bees more room and ventilation they would change their minds. They are afraid of their bees, anyway, and knock off the covers of their hives "semi-occasionally" to see if any honey is there. I would like to buy some of their swarms as they issue, but I am afraid to do so on account of the condition of the bees. The same combs have been used year after year, and if foul brood is not rampant, I don't know why not.

In a radius of 20 miles I know of only 3 or 4 farmers who keep bees. They are usually the black bees, gotten from the woods, most likely, but some of the box-hives have a double story with hand-made frames, all sizes and shapes—an excuse for frame hives, of course, but not fit for transferring to others if occasion should demand. None of them take bee-papers, that I can find, and are as ignorant of "patent gums" as they are of everything else.

The Ozarks of Missouri, especially this section, is a good place to keep bees—"more bees," and still more bees—for the pasture is grand, the fields are not encumbered, and if I can not instill a little life into the industry I surely can make money for myself.

Stone Co., Mo., April 10. N. T. GREEN.

American Bee Journal

Finally an Illinois Foul Brood Law.—We have received the following from Secretary Jas. A. Stone, which will certainly be read with great interest by every bee-keeper in Illinois, and possibly by all our other readers as well:

RT. 4, SPRINGFIELD, ILL., May 25, 1911.
EDITOR AMERICAN BEE JOURNAL.—

Our enemies of the foul brood law have not only been defeated, but have been the cause of double defeat to themselves, and a great help in securing to us a better law than the one for which we first asked.

They made their threats that if the inspector destroyed their bees they would make him pay for them. Now we have a law that declares foul-broody bees a nuisance, and therefore have no property value; and if they want to collect on worthless property, they will have a good time, and end in defeat.

Our Foul Brood Bill was passed April 28, 1911, as we first asked for it, but the Governor refused to sign it because of several unconstitutional points found by the Attorney General, such as paying a State officer (inspector appointed by the Governor out of a fund given to a private corporation, etc.) So the Governor called our committee to meet with the chairmen of the Appropriations Committees of both Houses, and asked them to get the Bill through, that the Attorney General had drafted at a conference meeting with our committee on Monday, May 8, 1911. Within 15 minutes after the Governor placed our Bill in Mr. Shanahan's possession, it was offered in the House, and placed on 2d reading May 8th. An evidence of the influence of our kickers being entirely lost sight of, was the fact that Mr. Shanahan, chairman of the Appropriations Committee, offered the Bill in the House (No. 670), and with the help of others pushed it through; and then Senator Hurburg, Chairman of the Appropriations Committee in the Senate, with others' help, pushed it through the Senate. All was done in the last two weeks of the session.

Our Appropriation Bill had passed the House, and was on the 3d reading in the Senate, at \$250, when the Foul Brood Bill went to the Governor. It was then amended to \$1000 for the State Association, and \$1500 placed in the Omnibus Bill for the salary of a foul brood inspector and deputies; and they so passed.

The bee-keepers of the State of Illinois are especially indebted to Gov. Chas. S. Deneen for his determination that we should have a good law, and to Assistant Attorney General Woodard for the interest he took in the same; then to Hon. Shanahan and Hon. Hurburg, assisted especially by Representatives Kerrick, Pervier, Ireland, and Chipfield in the House, and to Senators Lish, Funk, Hearn, and others. In fact, after our committee had met the several committees of both Houses, and our bee-keeper friends had poured in their letters to all the members of the House and Senate (so far as we conferred with them), we failed to find any opposition to our bills. All seemed to be our friends and helpers.

Finally, to the bee-keepers: You have worked manfully and faithfully with your committees, and stood by us until we are ready to lay off our armor, having earned the right to boast of old King Ahab of Israel knew—I Kings 20-11: "Let not him that girdeth on his armor boast himself as he that taketh it off."

Now let the fellows who caused us to wear the armor for six long years (four terms of the Legislature), themselves put it on, and see how it feels. It will be heavier to them than it was to us, for we were in the right, while they are in the wrong, and none will show them any sympathy.

The Foul Brood Bill passed the Senate with but one dissenting voice, while the House voted 131 "for" to none against.

JAS. A. STONE,

Sec. Illinois State Bee-Keepers' Association.

The foregoing is simply a magnificent report of work well done. And to Messrs. Jas. A. Stone, C. P. Dadant, E. J. Baxter, Chas. Becker, A. L. Kildow, J. E. Pyles, and a few other bee-keepers, is due the honor of success, and the appreciation of all the bee-keepers of Illinois.

We regret that Mr. Stone's report could not have come earlier, so that we could have included in this June

number some further comments, etc., that we wanted to use in connection with it. But what we have will keep until later. What is needed now is the heartiest and fullest co-operation of every bee-keeper in Illinois to aid the inspectors to clean up foul brood as rapidly as possible, before the disease "cleans out" bee-keeping in this State.

New Jersey Summer Bee-Meeting

The New Jersey State Bee-Keepers' Association will hold their summer meeting Wednesday, June 28, 1911, at Mr. W. D. Robinson's apiary, at Spring Lake, Monmouth Co., N. J. The full program and arrangements are not completed yet, but it is planned to make the meeting especially interesting and instructive along the line of bee-diseases and their treatment. Other topics of interest will, of course, be presented. The State inspector of apiaries, Dr. John B. Smith, will be present and explain the recently enacted foul-brood law, plans of inspection, etc. It is also expected that the assistant inspector will have been secured by that time, and will be present.

It is desired that there be a goodly attendance, for the best success in carrying out the provisions of the recently enacted foul-brood law, and eradicating bee-diseases from the State depends upon the co-operation of the best bee-keepers of the State.

Spring Lake is easily accessible from most parts of the State. It can be reached from points on the C. R. R. of N. J.; the P. R. R.; the N. Y. & Long Branch R. R. It is near the large summer resorts of Long Branch, Asbury Park, Ocean Grove, Sea Girt, etc.

All New Jersey bee-keepers, and bee-keepers in surrounding territory, are invited to attend. Bee-keepers and manufacturers are invited to bring for exhibition purposes, bees in observation hives, or anything along the apian line. A full program will be mailed for the asking.

Pittstown, N. J. ALBERT G. HANN, Sec.

Program for the National.—Your secretary believes that the average producer keeps his nose so close to the grindstone of production that he doesn't have time to learn the best selling system, and for that reason isn't getting all out of his product that he should. Believing this, I am anxious that the Minneapolis Convention (Aug. 30 and 31) go on record as the best one ever held with reference to real business methods being discussed. In addition to this selling question, there is the all-important one of new laws for the National, and this should be of interest to every member.

I want every member to read carefully the following proposed program. Think it over, and then tell me by return mail what subjects you would like to cut out, and what ones added. Also be sure and tell me whom you would like to handle the different subjects. You see, I am going to ask you to help me to get up the program. I want to get something the members want, and I offer the one given below simply as a starter:

1. President's Address.
2. General Manager's Report.
3. Secretary's Report.
4. How can a National campaign be conducted against foul brood?
5. How to get State foul brood laws.
6. Shall the National be one separate association or an aggregation of smaller ones?
7. Is a National advertising campaign for selling honey practical?
8. A National campaign for developing markets and selling the honey crop.
9. The new Constitution and By-Laws.
10. Developing the home market.
11. A mail-order honey-trade—how conducted?
12. Question-box.

E. B. TYRRELL, Sec.

230 Woodland Ave., Detroit, Mich.

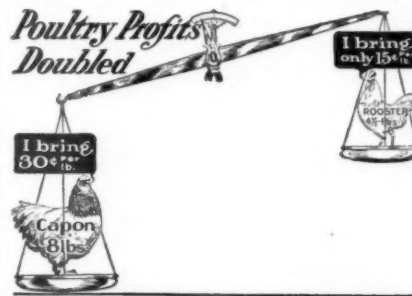
The Fruit-Growers' Guide-Book.—This book, by E. H. Favor, is designed as a means of assisting many persons who are undertaking the growing of fruit on a commercial scale, yet who feel the need of specific information on many orcharding problems. It is of interest to both the amateur and professional fruit-grower, and is written in a clear, easy style. It is of especial interest as it contains some of the latest information on

the important subjects of orchard heating and of spraying peaches for the control of brown rot. In addition it tells of the big profits in fruit-growing, the most desirable sites and locations for orchards; how to plant, prune, spray and pack the important orchard fruits. It contains in condensed form the cream of the important facts of orcharding; it has 285 pages, and is splendidly illustrated. The price, postpaid, is \$1.00, or with the American Bee Journal one year—both for \$1.75. Send all orders to the office of the American Bee Journal, 117 N. Jefferson St., Chicago, Ill.

Is Caponizing Profitable?—Do you raise capons? If not, why not?

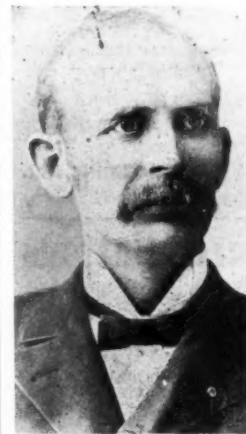
This is the season of the year to take up this proposition, and so get in line for your share of capon profits.

Capons are easy to make, easy to raise, and easy to sell for the high money. There may not be a market for old roosters, but there is always a market for capons, and at figures that will do you good. If your stock



is of the ordinary barn-yard variety you can make your surplus roosters—all legs and craw—into silent and succulent capons. If you raise thoroughbreds it pays to make the culs into capons, and thus avoid cheapening your stock.

If you will send a postal to Geo. P. Pilling & Son Co., 23d and Arch Sts., Philadelphia, Pa., they will send you a book telling you how to make, care for, and market capons. Write them to-day, and please mention the American Bee Journal.



This Man

Will consider it a privilege if you will let him make you an estimate on a bill of goods. Send him a list of what you want, and he will quote prices with discounts.

Goods can be shipped from Fremont, Mich., CHICAGO, ILL., or Medina, Ohio—whichever place

will cost the less freight; or you can have the estimate to be delivered at your station, freight prepaid.

He has the largest and most complete stock in his 25 years as a supply-dealer, and can ship promptly.

All Root's Goods at their Prices, with Season's Discount.

BEES, QUEEN'S, and Three-Frame Nuclei a specialty; Hilton's Superior Strain. (See testimonials.)

BEESWAX wanted for Cash or Exchange

Send for 50-page Catalog to—

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George E. Hilton, Fremont, Mich.

Please mention Am. Bee Journal when writing.

QUEENS of MOORE'S STRAIN of ITALIANS

Produce workers that fill the supers, and are not inclined to swarm. They have won a world-wide reputation for honey-gathering, hardiness, gentleness, etc.

My Queens are all bred from my best long-tongued three-banded red-clover stock (no other race bred in my apiaries), and the cells are built in strong colonies well supplied with young bees.

PRICES:—Untested Queens, \$1.00 each; six, \$5.00; doz., \$9.00. Select Untested, \$1.25 each; six, \$6.00; doz., \$11.00. Safe arrival and satisfaction guaranteed. Descriptive Circular Free. Address, 6Atf

J. P. Moore, Queen-Breeder,
Rt. 1., Morgan, Ky.

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Italian BEES, QUEENS and NUCLEI



Choice Home-Bred and Imported Stock. All my Queens reared in Full Colonies.

Prices for July to Nov.

One Untes. Queen... \$0.75
" Tested " " " 1.10
" Select Tes. " " 1.30
" Breeder Queen.. 1.85
" Comb Nucleus—
no queen..... .80

Safe arrival guaranteed. For prices on larger quantities, and description of

each grade of Queens, send for free Catalog and Sample Foundation.

J. L. STRONG,
204 E. Logan St., - CLARINDA, IOWA
Please mention Am. Bee Journal when writing.

I Breed Golden Queens

By the best known method, selected of the Best honey-gatherers, and for Beauty and Size of bees, with the care that the best of apiary-men can give, which makes a fine Queen in quality.

Price, Untested, \$1.00 each.

I guarantee satisfaction or your money returned, and safe arrival. 6Atf

M. Bates, Rt. 4, Greenville, Ala.
Please mention Am. Bee Journal when writing.

Celluloid Queen-Buttons

These are very pretty things for bee-keepers or honey-sellers to wear on their coat-lapels. They often serve to introduce the subject of honey, which might frequently lead to a sale.

NOTE.—One bee-keeper writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of these buttons], as it will cause people to ask questions about the busy bee, and many a conversation thus started wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."



The picture shown above is a reproduction of a motto queen-button that we offer to bee-keepers. It has a pin on the underside to fasten it.

PRICES—by mail—1 for 6 cts.; 2 for 10 cts.; or 6 for 25 cts. Address,

GEORGE W. YORK & CO.
- CHICAGO, ILL.

Please mention Am. Bee Journal when writing.

"How to Keep Bees," BY A. Botsford Comstock.

A simple book, written in a clear, every-day language, is much to be preferred, even if it does not treat of quite so many little details, which interest only the professional bee-keeper. Such is "How to Keep Bees," written by a gifted author, who made a start in bee-keeping three different times, thus being afforded the opportunity of personally finding out the difficulties and trials that beset the beginner with bees. It is a book written by an amateur to amateurs, so eminently readable, that any one interested in the subject can sit down and devour it clear through, as though it were a modern novel. The print is large, and typographically as well as rhetorically, it is the peer of any such book now on the market. It is bound in cloth, and contains 228 pages.

There are 20 chapters in the book as follows:

1. Why Keep Bees?
2. How to Begin Bee-Keeping.
3. The Location and Arrangement of the Apiary
4. The Inhabitants of the Hive.
5. The Industries of the Hive.
6. The Swarming of Bees.
7. How to Keep from Keeping Too Many Bees.
8. The Hive and How to Handle It.
9. Details Concerning Honey.
10. Extracted Honey.
11. Points About Beeswax.
12. Feeding Bees.
13. How to Winter Bees.
14. Rearing and Introducing Queens.
15. Robbing in the Apiary.
16. The Enemies and Diseases of Bees.
17. The Anatomy of the Honey-Bee.
18. The Interrelation of Bees and Plants.
19. Bee-Keepers and Bee-Keeping.
20. Bee-Hunting.

There is also a bibliography and index. From a beginner's standpoint it is a complete treatise on bees, and we can not do better than recommend it. In fact, it should find a place in every bee-keeper's library.

Our Offers of this Interesting Book.

We mail this book for \$1.10; or we club it with the American Bee Journal one year—both for \$1.75; or, we will mail it free as a premium for sending us 3 new subscriptions to the American Bee Journal for one year with \$3.00 to pay for the subscriptions. Address,

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ADVANCED BEE-VEIL

—POSTPAID—

All Cotton 50c; Silk Face, 60c; All Silk, 90c.

Made of Imported French Tulle Veiling; cord arrangement which permits wearer to handle bees in shirt-sleeves with no chance of bees crawling up and under veil. With a hat of fair-size brim to carry veil away from face, you are as secure from stings, movements as free and unrestricted, and as cool and comfortable as you would be at a summer resort.

Please send me two more bee-veils. I have tried all kinds, and yours are best of all.—N.E. FRANCE, Platteville, Wis.

Editorial Comment in Bee-Keepers' Review:—The Advanced Bee-Veil is something I have worn with great comfort the past few weeks. The peculiar feature of the veil is, the edges are held down firmly on the shoulders away from the neck. This does away with all chance of stings, and the hot, suffocating, uncomfortable feeling found in other veils that are tucked in close about the neck.—W. Z. HUTCHINSON.

A. G. Woodman Co., Grand Rapids, Mich.

Please mention Am. Bee Journal when writing.

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sufficient to keep a family in comfort. It will pay for a home that is not an expense, but

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Or, for an investment which will pay from 100% to 500% every year as long as you live, and longer, after it comes into bearing.

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Bee Journal "Could Hardly Be Better"

BRO. YORK:—Both the outside and the inside of the American Bee Journal could hardly be better. The covers are artistic and attractive, and the articles and editorials full of information. The whole bee-keeping fraternity is indebted to you for

providing such a storehouse of information, and any one interested in bee-keeping can not well do without it. May the coming year—1911—bring you and your gentle readers much happiness and prosperity.

(DR.) FREDERICK WEBLEY.
Santa Cruz, Cal., Dec. 15, 1910.

American Bee Journal

Wants, Exchanges, Etc.

[Advertisements in this department will be inserted at 15 cents per line, with no discounts of any kind. Notices here cannot be less than two lines. If wanted in this department, you must say so when ordering.]

FOR SALE—160-lb. honey-kegs at 50c each f. o. b. factory. N. L. Stevens, Moravia, N. Y.

FOR SALE—Extracting and Brood Combs; wired. No disease. Address, Lock Box 543, Elmhurst, Ill.

QUEENS from my EDUCATED strain of Golden Italians. \$3.00 to \$100. 5A1t Henry W. Britton, Stoughton, Mass.

FOR SALE.—Bees, honey, and bee-supplies. We are in the market for beeswax and honey. 5A1t Ogden Bee & Honey Co., Ogden Utah.

FINE Golden Italian Queens—Tested, \$1.00; Select Tested, \$1.25; Untested, 60c; dozen \$7. 6A2 D. T. Gaster, Rt. 2, Randleman, N. C.

FOR SALE CHEAP.—60 good second-hand 5-gallon cans, 2 in a box. Write to C. Becker, Pleasant Plains, Ill. 4A3t

ITALIAN Untested Queens, 75 cents; Tested, \$1.25. Breeders, \$5.00 each. E. M. Collyer, 8A12t 75 Broadway, Ossining, N. Y.

WANTED—Early orders for the Old Reliable Bingham Bee-Smokers. Address, 12A1t T. F. Bingham, Alma, Mich.

WANTED—A few more 4 and 5 year old Queens; also bees. C. O. Smith, 5533 Cornell Ave., Chicago, Ill.

FOR SALE—300 cases second-hand 5-gallon cans in good condition; single cases, 35 cts.; 5 cases or more, 30 cts. per case. 6A1t J. E. Crane & Son, Middlebury, Vt.

TWO-FRAME NUCLEI with Golden or Red Clover Queen, \$1.50. Safe arrival guaranteed. Rosedale Apiaries. 5A2t J. B. Marshall, Big Bend, La.

FOR SALE OR EXCHANGE—Shakespeare's Complete Works. Good as new. Still in original shipping-box. 13 volumes. P. O. Box 125, Halls, Tenn.

Improved golden-yellow Italian queens for 1911. Beautiful, hustling, gentle workers. Send for price list to E. E. Lawrence. 4A3t Lock Box 28, Doniphan, Mo.

FOR SALE—Golden Queens that produce 50 to 100 percent 5-banded bees. Untested, \$1; Tested \$1.50; Select Tes, \$2; Breeders, \$5 to \$10 8A12t J. B. Brockwell, Bradley's Store, Va.

YOU MAY ORDER Root's Bee-Supplies from any catalog published by them, and send me the order. I'll get it to you in quick time. Or call yourself on Geo. S. Graffam, Valley Ave., Bangor, Maine.

FOR SALE—In Antrim Co., Mich., 33½ acres bee and fruit farm; good honey location; a home market for fruit and honey. Will sell 90 colonies of bees with farm. H. E. Brown, Rt. 4, Charlevoix, Mich.

ITALIAN QUEENS from imported and home-bred stock—the best in the world, 75c each; 6, \$1.00; 12, \$7.50. Tested, \$1.25 each. Safe arrival guaranteed. N. Forehand, 5A1t Ft. Deposit, Ala.

SECOND-HAND CANS—Good ones, two 5-gal. in a box—5 boxes at 40 cts. a box; 10 boxes at 35 cts. a box; or 20 boxes at 30 cts. a box. Address, George W. York & Co., 117 N. Jefferson St., Chicago, Ill.

ITALIAN QUEENS, good as the best; untested, 75c; tested, \$1.00. Shipments begin April 1st for Bees by the Pound and Nuclei. Write for prices. C. B. Bankston, 5A1t Buffalo, Leon Co., Texas.

GOLDEN QUEENS—very gentle, very hardy, and great surplus gatherers. Untested, five and six band, \$1.00; select tested, \$3.00; also nuclei and full colonies. Send for circular and price list to Geo. M. Steele, 5A3 30 So. 40th St., Philadelphia, Pa.

Colonies of Italian bees in L. hives, 10-fr., built on full brood-fdn., wired, body and sh. super, redw., dove, 3 coats white, sheeted lids, each neat, modern and full-stored—any time. Jos. Wallrath, Antioch, Cal. 2A1t

BACK VOLUMES OF AM. BEE JOURNAL.—We have some on hand, and would be glad to correspond with any one who may desire to complete a full set. It may be we can help do it. Address, American Bee Journal, 117 N. Jefferson St., Chicago, Ill.

FOR SALE.—500 3 and 5 Band Queens. Not Cheap Queens, but Queens Cheap. 3-Band Queens as follows: Untested Queens—1 for 75 cts.; 6 for \$4.20. Tested Queens—1 for \$1; 6 for \$5.70. 5-Band Queens as follows: Untested Queens—1 for \$1.00; 6 for \$5.70. Tested Queens—1 for \$1.50; 6 for \$8.70. "Directions for Building Up Weak Colonies," 10 cts. 2A1t W. J. Littlefield, Little Rock, Ark

BEESWAX WANTED.—We are paying 30 cents, cash, per pound for good, pure yellow beeswax delivered at our office. If you want the money promptly for your beeswax, ship it to us, either by express or freight. A strong bag is the best in which to ship beeswax. Quantity and distance from Chicago should decide as to freight or express. Perhaps under 25 pounds would better be sent by express, if distance is not too great. Address, GEORGE W. YORK & CO., 117 N. Jefferson St., Chicago, Ill.

NATIONAL LETTER-HEADS.—N. E. France, Platteville, Wis., General Manager of the National Bee-Keepers' Association, takes orders from members for printed letter-heads. The paper is white, and then printed with black ink, which makes them very neat and business-like. Every member of the National ought to use these letter-heads. They show a list of the Officers and Board of Directors, and, of course, will have added the name and address of the member ordering any of them, at these **prepaid** prices, which are "cash with order": 250 sheets, \$1.30; 500 sheets, \$2.00; 1000 sheets, \$3.75. All orders are to be sent to Mr. France.

Poultry

FOR SALE—Duston White Wyandottes, \$2; 15 eggs, \$1; \$5 per 100. 11A1y Elmer Gimlin, Taylorville, Ill.

White and Brown Leghorn Eggs and Chicks, 5 other breeds. Prices right. Safe arrival guaranteed. Bred for utility. Catalog free. 4A3t Derooy Taylor Lyons, N. Y.

ROSE COMB Rhode Island Reds, Red Cloud strain; beautiful birds, raised on free range. Eggs for hatching. Write for prices. 5A2t M. L. Main, Grand Valley, Pa.

UTILITY EGGS—S. C. W. Leghorns, Barred Rocks—\$4.00 per 100. Also Pekin or Runner Ducks, \$1.00 per 13. Circular free. 4A3t Premium Poultry Farm, Box 15, LaHarpe, Ill.

CHOICE STOCK.—Strictly pure-bred stock of White Plymouth Rocks, R. C. Rhode Island Reds, and Spangled Hamburgs, bred for laying as well as for show purposes. The White Rocks, and the Reds, are the best all-the-year-around layers, and are heavy and thrifty. The Hamburgs are as pretty chickens as ever were introduced in this country, and are good layers. Eggs, 75c per sitting of 15, of the above breeds. You can't buy better stock at three times my price. 5A2t Herman Fajen, Stover, Mo.

Honey to Sell or Wanted

FOR SALE.—Choice light-amber extracted honey—thick, well-ripened, delicious flavor. Price 9 cents per lb. in new 60-lb. cans. 2A1t J. P. Moore, Morgan, Ky.

WANTED—Choice extracted white and amber honey in barrels or cans. Send sample, and price delivered f. o. b. Preston. 11A1t M. V. Facey, Preston, Minn.

WILL PAY for early shipments of good flavored clean honey. Extracted, 60-lb. cans, 8c. Comb in sections, frames or boxes, 15c net weight. F. O. B. Baxter Springs, Kan. 3A1t O. N. Baldwin

QUEENS

AND BEES—an improved superior strain of Italians is what QUIRIN REARS. All yards winter on summer stands with practically no loss. Our stock is hardy, and will ward off brood diseases.

In the spring of 1890, we sent fifty nuclei to J. D. Dixon, Lafarge, Wis., and on July 20th (same year) he wrote us, saying they did just splendid, as that writing they had already filled their supers, and that he would have to extract them. We have files of testimonials similar to the above.

Prices before July

	1	6	12
Select queens.....	\$1 00	\$5 00	\$9 00
Tested queens.....	1 50	8 00	15 00
Select tested queens.....	2 00	10 00	18 00
Breeders.....	4 00
Golden five-band breeders..	6 00
Two-comb nuclei, no queen	2 50	14 00	25 00
Three-comb nuc., no queen	3 50	20 00	35 00
Full colonies on 8 frames...	6 00	30 00

Add price of whatever grade of queen is wanted with nuclei and colonies; nuclei and colonies, if shipped before June 1st, add ¼, or 25%, extra to above price. No order too large, and none too small. Will keep 500 to 1000 queens on hand ready to mail. Safe delivery and pure mating guaranteed. Over 20 years a breeder. Testimonials and circular free. 5A1t

QUIRIN-THE-QUEEN-BREEDER,
BELLEVUE, OHIO

Swarming Prevented

A new method, just published, worthy of investigation by all progressive bee-keepers. Advantages claimed for the plan of treatment. No clipping of queens' wings—no caging of queens—not even necessary to look for queens—no pinching of queen-cells—no shook swarming—no dividing—no extra expense connected with the plan—plan simple and easy to carry out—satisfactory honey crop—saves time and labor. Send to

DR. H. JONES, PRESTON, MINNESOTA
for his booklet describing his method of treatment. Price 25 cents.
Please mention Am. Bee Journal when writing.

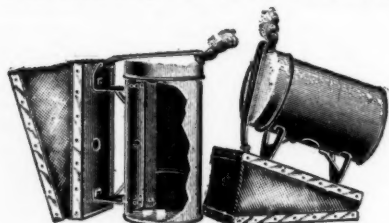
MILLER'S STRAIN Red Clover Italian Queens

Bred from my superior breeder for business; gentle; no better hustlers; bees just roll honey in; three-banded; northern bred; hardy and vigorous; winter well; not inclined to swarm; bred from best leather-colored, long-tongued, red-clover strains. Untested, \$1.00; six, \$5.00; dozen, \$9.00. Select untested, \$1.25; six, \$6.00; dozen, \$11.00. Circular free. Satisfaction guaranteed. Isaac F. Miller, of Reynoldsville, Pa., a queen-specialist, is my apiarist and manager, who has been before you quite a number of years.

J. S. Miller, Rt. 2, Brookville, Pa.
Please mention Am. Bee Journal when writing.

American Bee Journal

Gold Medals St. Louis Exposition, 1904.
Jamestown Centennial, 1907.



Danzenbaker x Smoker

Shown above in a standing and reclining position. In the latter the grate is under, that it may have a full head of smoke ready on the job at a touch of bellows.

The perpendicular **Fire-Draft Grate**, forcing air **both ways**, makes and cools the smoke, forming a **Double Fire-Wall** for **securely** riveting the **double-braced** brackets to the cup, that is **firmly bolted** to the valveless bellows by **Locked Nuts**.

The **One-Piece** cap **can not clog**. It is the **coolest, cleanest, strongest, best, and largest net capacity** of all smokers, selling at one dollar (\$1.00). We **guarantee satisfaction or return the price**; only three complaints in **six years**.

Dan-z. 3 1/2 x 7 1/2-inch Prize Smoker, \$1.00; by mail, \$1.25.
With American Bee Journal \$1.00 per year, and Prize Smoker, by mail, \$1.75.
Dan-z. 3 1/2 x 6-inch Victor Smoker, 80c; by mail, \$1.00.
With American Bee Journal one year, about 400 pages, by mail, \$1.65.

We send **Propolis Shields** with Danzenbaker Hives and Supers, and sell anything in the Bee-line at factory prices, also select three-banded Italian queens and bees.

Please send address of yourself and B-friends for **FREE** catalogs and prices on Bee-supplies, Bees, Queens, Hives, Sections and Smokers. Address, 4Atf

F. DANZENBAKER,

68-70 Woodside Lane, NORFOLK, VA.

Queens That 'Are Better' Italians and Banats

Untested, 75c each; \$8.00 per dozen.
Tested, \$1.25 each; \$12.00 per dozen.
Select Breeders from full colonies; \$3.00 each.
I also mate Italians with Banat drones from my honey-yards; these I can furnish at above prices.

All are guaranteed pure, and free from disease.

Write for wholesale prices of Bees, Nuclei and Full Colonies; also references. 4Atf

J. A. Simmons, Sabinal, Tex.

THE FAMOUS Texas Queens!



Will be ready about March 1st. My

Famous Banats

are unexcelled for Gentleness, Honey-Gathering, Prolificness, and as Early Breeders.

I also have the well-known

3-Banded Italians

carefully selected and bred for Business. All Queens guaranteed Pure and Free from Disease. **Prices:**

Untested—each, 75 cts.; per dozen, \$8.00
Tested—each, \$1.25; per dozen, 12.00

If you wish to swell your means, Just try my Famous Texas Queens

GRANT ANDERSON,

2Atf San Benito, Texas.

Please mention Am. Bee Journal when writing.

Queens Ready Now!

**Not Cheap Queens,
But Queens Cheap.**

Prices of 3 and 5-Band Queens.

3 Band Untested Queens, 1,	\$ 0.75; 6,	\$ 4.20
3 " Tested " 1,	1.00; 6,	5.70
3 " Breeder " 1,	5.00; 6,	25.00
3 " Untested " 1,	1.00; 6,	5.70
3 " Tested " 1,	1.50; 6,	8.70
3 " Breeder " 1,	10.00; 6,	50.00
" Nuclei 1-fr. with Unt. Queen	1.75	
" " 2-fr. " " "	2.25	
" " 1-fr. " Test. " "	2.00	
" " 2-fr. " " "	2.50	
" Full Colony " Unt. " "	4.75	
" " Test. " "	5.00	
" Nuclei 1-fr. " Unt. " "	2.00	
" " 2-fr. " " "	3.00	
" " 1-fr. " Test. " "	2.50	
" " 2-fr. " " "	3.50	
" Full Colony " Unt. " "	8.00	
" " Test. " "	9.50	

Directions for building up weak colonies, 10 cents.

The above Queens are reared from selected Red Clover Mothers. For Gentleness, Beauty, and Good Working Qualities no better BEES can be found. Our Queens are all large, well-developed Queens, reared entirely by the BEES. We use no artificial plans to rear Queens—the BEES far better understand the job than MAN.

Dealer in Bee-Keepers' Supplies.

W. J. LITTLEFIELD,

R. F. D. 3 LITTLE ROCK, ARK.

LINE-BRED ITALIANS
My bees being line-bred are very strong in reproductive qualities, and are powerful demonstrators of what can be accomplished by years of careful line-breeding and selection.
Extra-Choice Breeding Queens a Specialty.
The fact that other queen-breeders send to me for fine breeding queens is proof that my stock is O. K. Read what an ex-queen breeder of Lincoln, Neb., says in part:
LINCOLN, NEBR., Aug. 6, 1910.—You are at liberty to refer to me at any time, and I will cheerfully certify to the quality of your stock and your conscientiousness as a breeder.
I positively send out nothing but vigorous, well-developed queens; or, in other words, the kind that produce.
Untested queens, \$1.00 each, or six \$5.00; select untested, \$1.25 each, or six \$6.00; tested, \$2.00 each. Queens ready to send after June 1st. Send for instructive circular.
Walter M. Parrish, Lawrence, Kan.
P. S.—I can furnish either 3-Band or Golden Italian Queens; also Banat Queens mated to Golden drones.

Marshfield Sections Best Dovetail Hives

with Colorado Covers

Hoffman Frames, and everything pertaining to Bee-Keepers' Supplies sold at **Let-live Prices**.

Berry Boxes, Baskets, Crates, etc.

kept in stock. **Wholesale and Retail.**

Prices sent for asking.

W. D. Soper, 323 and 325 Jackson, Mich.

Please mention Am. Bee Journal when writing.

QUEENS

**From the Old Reliable
Queen-Breeder**



Every Queen represents the highest Breed of Italian Bees. Golden, 5-Banded, and 3-Banded Queens from my Superior Strains, which are prolific, and hustlers for honey. No disease. Untested, \$1.00 each; \$5.50 for 6.

After July 1st, 75c each; \$4.00 for 6.

Tested, \$1.50; after June 1st, \$1.25 each; \$1.00 each after July 1st, or \$10 a dozen.

Select Queens of either grade, 25c extra. Breeders, \$5.00 each.

Daniel Wurth, Rt. 1, Wapato, Wash.

Please mention Am. Bee Journal when writing.

SAVE Your Queenless Colonies

Introduce a vigorous Tested Queen. We can supply them

By Return Mail for \$1.00 Each.

Queens reared last fall from our well-known strain of Italians, and every Queen guaranteed.

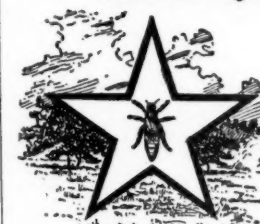
Send for Price-List. 4Atf

J. W. K. SHAW & CO.,

LOREAUVILLE, Iberia Parish, LA.

Please mention Am. Bee Journal when writing.

Lone Star Apiaries Co. Italian Queens



From Imported Mothers.

PRICES

One, \$1.25; six, \$7.00; 12 for \$12. Breeders, \$3.00.

Another Queen or your money back if not satisfied.

Write for descriptive Circular. 4Atf

LONE STAR APIARIES CO.

BIG FOOT, TEXAS.

Please mention Am. Bee Journal when writing.

Carniolan Queens!

By crossing the most desirable strains I am improving this race of bees each year. Have tried Queens from nearly all the queen-rearers that advertise in *Leipziger Bienen-Zeitung*, and other foreign publications. These improved Carniolans are hardy and gentle, and not inclined to swarm unless crowded. Don't take my word for it. Buy half a dozen or so, and see how you like them. Prices are as follows:

Before July 1st	1	6	12
Untested.....	\$1.00	\$5.50	\$10.00
Tested.....	1.25	6.75	12.75
After July 1st	1	6	12
Untested.....	75	\$4.25	\$8.00
Tested.....	1.00	5.50	10.00

Wm. KERNAN,

Rt. 2, DUSHORE, PA.

Please mention Am. Bee Journal when writing.

MARSHFIELD GOODS

BEE KEEPERS:—

We manufacture Millions of **Sections** every year that are as good as the best. The **CHEAPEST** for the Quality; **BEST** for the Price. If you buy them once, you will buy again.

We also manufacture **Hives, Brood-Frames, Section-Holders and Shipping-Cases.**

Our Catalog is free for the asking.

Marshfield Mfg. Co.,

Marshfield, Wis.

HAND-MADE SMOKERS

BINGHAM
CLEAN
BEE SMOKER



Pat. 1876, '92, '92 & 1903

Extracts from Catalogs—1907:

Chas. Dadant & Son, Hamilton, Ill.—This is the Smoker we recommend above all others.

U. B. Lewis Co., Watertown, Wis.—We have sold these Smokers for a good many years and never received a single complaint.

A. I. Root Co., Medina, Ohio.—The cone fits inside of the cup so that the liquid creosote runs down inside of the smoker.

All Bingham Smokers are stamped on the tin, "Patented 1876, 1892, and 1903," and have all the new improvements.

Smoke Engine—largest smoker made.....	\$1.50—4	inch stove
Doctor—cheapest made to use	1.10—3½	"
Conqueror—right for most apiaries	1.00—3	"
Large—lasts longer than any other.....	.90—3½	"
Little Wonder—as its name implies65—2	"

The above prices deliver Smoker at your post-office free. We send circular if requested.

Original Bingham & Hetherington Uncapping-Knife.

T. F. BINGHAM, Alma, Mich.



Patented, May 20, 1879. **BEST ON EARTH.**

Italian Queens by Return Mail.

Cyprians, Carniolans, Caucasians and Bannats. Italians—Untested, 75c; Tested, \$1.25; Breeders, \$3.00. Others, 25c extra. Two 5-gallon cans, 50c; 1 gallon, \$8.25 per 100; 1 lb. panel and No. 25 bottles, \$3.75 a gross in crates; in boxes, 75c extra. Complete Alexander Hive, 9-F., 2-story, double cover, \$2.00; Alex. Veil, by mail, 45c. Gleanings or Bee-Keepers' Review, to new subscribers, 75c a year. Langstroth by mail \$1.00. Italian Bees, \$10.00 a colony, 8-F. with super. Supplies and Honey. Send for Catalog. Free School—Saturday afternoon classes.

Walter C. Morris, 74 Cortlandt St., NEW YORK, N. Y.

Apiary—Yonkers, N. Y.

Please mention Am. Bee Journal when writing.

ITALIAN Queens Direct from ITALY

—Extensive Apiaries—

E. PENNA, BOLOGNA, ITALY

I send Queens from May 15 to Sept. 30. In Italy we have only Italian bees, so all my Queens are pure and rightly mated. One selected fertile Queen, 90c.; two Queens, \$1.60; six Queens, \$4.50; one Breeding Queen, \$2.00. Cash with orders. Queens postpaid. The safe arrival is NOT guaranteed.

Please mention Am. Bee Journal when writing.

MOTT'S Strain of R. C. Italians

My 10-page Descriptive Price-List free. Untested, \$1.00 each; \$9.00 per doz. Natural Golden, from Imported Italian Stock, \$1.10 each; \$10 per doz. Reduced rates July 1st.

Nuclei and Bees by Pound.
List to select from: Clubbing "The Pearce Method of Bee-Keeping" (price 50c) with a Guaranteed Queen, for \$1.10. Books by return; Queens after June 10th. Leaflets, "How to Introduce Queens," 15c each; also, "Increase," 15c each—or both for 25c. 3A7t

E. E. Mott, Glenwood, Mich.

Please mention Am. Bee Journal when writing.

Cannot Surpass Them! Famous Golden & Red Clover

Queens. Untested, 50 cts.; Select Untested, 75c; Tested, \$1.00.

NUCLEI, \$1.00 per Frame.

Evansville Bee & Honey Co.,

5A3t EVANSVILLE, IND.

Please mention Am. Bee Journal when writing.

Southern Bee-keepers!

When your HONEY is ready for market, write us. Will buy outright, or handle on commission. Send samples with full particulars.

We are paying 30c per pound, net, f. o. b. New York for Choice Yellow

Beeswax

HILDRETH & SEGELKEN,
265-267 Greenwich St.,
NEW YORK, N. Y.

Please mention Am. Bee Journal when writing.

Sweet Clover Seed!

Sweet Clover is rapidly becoming one of the most useful things that can be grown on the farm. Its value as a honey-plant is well known to bee-keepers, but its worth as a forage-plant and also as an enricher of the soil are not so widely known. However, Sweet Clover is coming to the front very fast these days. Some years ago it was considered as a weed by those who knew no better. The former attitude of the enlightened farmer today is changing to a great respect for and appreciation of Sweet Clover, both as a food for stock and as a valuable fertilizer for poor and worn out soils.

The seed can be sown any time. From 18 to 20 pounds per acre of the unhusked seed is about the right quantity to sow.

We can ship promptly at the following prices for the white variety:

Postpaid, 1 pound for 30 cents, or 2 pounds for 50 cents. By express f. o. b. Chicago—5 pounds for 75c; 10 pounds for \$1.40; 25 pounds for \$3.25; 50 pounds for \$6.00; or 100 pounds for \$11.50.

If wanted by freight, it will be necessary to add 25 cents more for cartage to the above prices on each order.

George W. York & Company,

117 N. Jefferson St., CHICAGO, ILL.

Please mention Am. Bee Journal when writing.

TEXAS HEADQUARTERS

Root's Supplies for Bee-Keepers.

Makers of Weed New Process Comb Foundation.

Buy Honey and Beeswax.

Catalogs Free.

Toepperwein & Mayfield Co.

Cor. Nolan & Cherry Sts.,

4Atf San Antonio, Texas.

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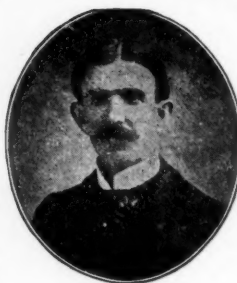
FOR SALE

Untested Golden Italian Queens 50 cts. each

6A3 **J. F. Michael, Rt. 1, Winchester, Ind.**

Please mention Am. Bee Journal when writing.

American Bee Journal



"If goods are wanted quick, send to Pouder"
(Established 1880)

BEE-SUPPLIES

Standard hives with latest improvement; Danzenbaker Hives, Sections, Comb Foundation, Extractors, Smokers—in fact, everything used about the bees. My equipment, my stock of goods, the quality of my goods, and my shipping facilities, can not be excelled.

Paper Honey-Bottles

for Extracted Honey. Made of heavy paper and paraffin coated, with tight seal. Every honey-producer will be interested. A descriptive circular free.

Finest **White Clover Honey** on hand at all times.
I buy **Beeswax**. Catalog of supplies free.

Watter S. Pouder, Indianapolis, Ind.

859 Massachusetts Ave.

BETTER FRUIT

The best fruit growers' illustrated monthly published in the world. Devoted exclusively to modern and progressive fruit growing and marketing. Northwestern methods get fancy prices, and growers net \$200 to \$1000 per acre. One Dollar per year. Sample copies free.

Better Fruit Publishing Co. HOOD RIVER, OREGON.

CAPON TOOLS



CAPONS bring the largest profits—100 per cent more than other poultry. Caponizing is easy and soon learned. Progressive poultrymen use

PILLING CAPONIZING SETS

Postpaid \$2.50 per set with free instructions. The convenient, durable, ready-for-use kind. Best material. We also make Poultry Marker 25c, Gape Worm Extractor 25c, French Killing Knife 50c. Capon Book Free. G. P. Pilling & Son Co., Philadelphia, Pa.

NEW ENGLAND BEE-KEEPERS

Everything in Supplies.
New Goods. Factory Prices.
Save Freight & Express Charges.

Cull & Williams Co.

4Atf

PROVIDENCE, R. I.

Cook's Honey-Jar.

With patent AIR-TIGHT SANITARY STOPPER is the Best and Cheapest Honey-Jar made. Sold only by

J. H. M. Cook, 70 Cortlandt St., N. Y. City.

Send 10 cents (half postage) for sample Jar, and catalog of WELL-BRED BEES, QUEENS, HIVES, etc.

The oldest Bee-Supply Store in the East. 2Atf

Root Section Honey-Boxes

Concerning the importance of buying the best, and our ability to furnish sections of a superior quality to bee-keepers everywhere.

Our Section Making Department

we believe to be the best equipped in the world. We claim superiority of workmanship in several respects, especially in smoothness of the dovetailing and the ends of the sections. They are polished on both sides in double-surface sanding machines, and are therefore uniform in thickness. Too much importance can not be attached to putting up comb honey in sections of uniform quality, and experienced honey-producers agree that **ROOT SECTIONS** of either A or B grades are a most essential investment.

Price-List of Sections

Root Sections come in several standard styles and sizes—with or without bee-way as follows:

$4\frac{1}{4} \times 4\frac{1}{4}$ BEEWAY SECTIONS.
2 inch, 1 15-16, 1 $\frac{1}{8}$, 1 $\frac{3}{4}$, or 7-to-foot wide.

We send 1 $\frac{1}{8}$ style 2 beeway when your order does not specify style or width wanted.

Quan.	Grade A
100	\$ 80
250	1 60
500	2 75
1000	5 50

Grade B
\$ 70
1 40
2 50
5 00

PLAIN, OR NO-BEEWAY SECTIONS.
 $4\frac{1}{4} \times 4\frac{1}{4} \times 1\frac{1}{2}$, 1 $\frac{1}{8}$, or 1 $\frac{3}{4}$; $4\frac{1}{4} \times 5\frac{1}{4} \times 1\frac{1}{2}$ or 1 $\frac{3}{4}$; or $3\frac{1}{2} \times 5\frac{1}{4} \times 1\frac{1}{2}$.

We send $4\frac{1}{4} \times 1\frac{1}{2}$ plain, or what will fit other items in your order, if you do not specify.

Quan.
100
250
500
1000

Grade A
\$ 80
1 60
2 75
5 25

Grade B
\$ 70
1 40
2 50
4 75

One hundred sections weigh about 7 lbs.

Better Order a supply of **Root's Weed Process Foundation** with your sections. 1910 sales on this very superior product totaled nearly 200,000 lbs. Samples with full information and prices may be had upon request.

Remember—We carry complete stocks at this branch and guarantee quick delivery on sections in lots of 100 to 1,000,000, and on foundation and other supplies in any quantity. You ought to know the complete **ROOT LINE** for every appliance for successful bee-keeping. Get the new catalog—brimful of the most modern supplies priced at rock bottom figures for goods of the quality we have manufactured for more than 40 years.

THE A. I. ROOT CO., 213 Institute Place, CHICAGO, ILL.

R. W. BOYDEN, Mgr.

(JEFFREY BUILDING)

Telephone 1484 North.

Special Prices for June

Only in Lots of 5 or more, in the Flat,
delivered in Minneapolis.

1-story Dovetailed Hives with Hoffman Frames, Division-8-fr. 10-fr. Board, Reversible Bottom, Flat tin joint or Higginsville Cover, each.....	\$1.10	\$1.20
Above, with Colorado Cover, each.....	1.20	1.30
Above, with Metal top, double Cover, each.....	1.25	1.35
Above, with 9½-inch Telescope, with Metal top, double Cover, each.....	1.50	1.60
Supers for any style Section, with Section-Holders, Separators, Follower and Springs, each.....	.40	.45
9½-inch deep Extracting Supers with Frames.....	.65	.70

No Foundation or Sections included at above prices.
Do not delay in sending your order.
If goods are not as represented, will refund your money.
Write for prices in large quantities.

Minnesota Bee-Supply Co.

Nicollet Island MINNEAPOLIS, MINN.

Please mention Am. Bee Journal when writing.

STANLEY is to the Front with BEES and QUEENS

32 Years a Queen-Breeder. My Specialty is Choice Breeding Queens.

Choice Breeding Queens, Golden, each, \$3.00; 3-Banded Italians, \$2.00.
Golden and 3-Banded Tested, each, \$1.25; dozen, \$10.00.
Carniolan, Caucasian, and Banats, each, \$1.25; dozen, \$10.00.
Warranted Queens of the above Races, each, 75 cts.; dozen, \$7.00.
Virgin Queens of the above Strains, 25 cts. each.

These Queens are sent in a Stanley Improved Introducing Cage. These Cages are well worth what I ask for Queen and Cage.

Arthur Stanley, Dixon, Lee Co., Ill.

LEWIS BEEWARE — Shipped Promptly

ARND HONEY & BEE-SUPPLY CO. NOT INC.

(Successors to the York Honey & Bee-Supply Co.)

148 West Superior St., CHICAGO, ILL.

Send for Catalog.

Enough said!

Please mention Am. Bee Journal when writing.

We are first hands for choice California-grown

YELLOW BLOSSOM MELILOTUS SEED

(Sweet Clover)

For introductory purposes, and that bee-men may test this valuable California product, we offer to deliver at your nearest express office, all charges prepaid by us, one 5-pound package of hulled seed (will sow ½ acre) for \$1.25; two packages, \$2.25; five packages, \$5.00.

Samples mailed, and larger quantities quoted.

The seed is from our own harvest, is fully matured, free from noxious weed seeds, and possesses high germinating qualities.

If you wish other California Grown Seeds, write us. 5Atf

MERCANTILE & WAREHOUSE CO.,
141 Moss Ave., Oakland, Cal.

Please mention Am. Bee Journal when writing.

SEND FOR FREE

ADEL Bee and Supply Catalog

You will save money if you buy direct from my factory. I make the finest polished Sections on earth. I want to prove it to you. Send me your order for Sections, or anything in Bee-Supplies.

45,000 Brood-Frames at \$1.50 per 100, as long as they last—size 9½ inches deep, top-bars, 10 x 16 long, V-shape, or 2-groove and wedge; or Simplicity Frames—all loose-hanging frames.

65,000 Section-Holders at \$1.00 per 100, as long as they last. They are nicely dovetailed, and are for 4¼x4¼x1½ and 4x5x1½ sections.

Car-load Section orders a specialty.

CHAS. MONDENG,

160 Newton Ave., N.,

3A6t MINNEAPOLIS, MINN.

Golden Untested Queens

Balance of season, 75c each. Safe arrival.

R. V. COX,

5Atf Rt. 4, GREENVILLE, ALA.

QUEENS

Bees by the Pound
and Full Colonies

Hardy Golden and Three-banded Italians. Hustlers for honey, and are gentle. No disease.
Untested queens, \$1.00 each, \$5.00 for six; tested, \$1.50 each, \$8.00 for six; select tested, \$2.00. One-frame nucleus, \$2.00; two-frame, \$3.00; three-frame, \$4.25; ½ lb. bees, \$1.75 (add price of queen wanted); full colonies, \$7.00.

VIRGIL SIRES,

516 North 8th St.,
NORTH YAKIMA, WASH.

Please mention Am. Bee Journal when writing.

Latest Improved Supplies,

Incubators & Brooders

Catalogs Free—state which.

Send 25 cts. for Illustrated Bee-book for beginners—“A gem.” Dis. for early orders.

J. W. Rouse, Mexico, Mo.

Please mention Am. Bee Journal when writing.

Bee-Supplies

We are Western Agents for— 1Atf

“Falconer”

— Write for Catalog.

C. C. Clemons Bee-Supply Co.

128 Grand Ave., Kansas City, Mo.

Please mention Am. Bee Journal when writing.

The Swarthmore Apiaries

are now shipping their well-known

PEDIGREED GOLDEN QUEENS

The Swarthmore Apiaries,

6A4 Swarthmore, Pennsylvania.

Please mention Am. Bee Journal when writing.

Queens! Queens!



Ready April 15th. Mail your orders NOW to insure your Queens when you need them.

Tested, \$1.25; Untested, \$1.00.

We breed Carniolans, 3-Band Italians, Caucasians, and Goldens.

Address,

JOHN W. PHARR,

Berclair, Goliad Co., Tex.

Wanted —Old Combs and Slumgum. Will work it for half and pay 30 cents a pound for your share of wax. A. A. LYONS, 8A1zt Rt. 5, Box 88, Ft. Collins, Colo.

Missouri-Bred Italian Queens—These queens are bred for results, having all the good qualities and will “show you” by filling the supers with honey. Prices right. Free Circular. 4A1y

L. E. ALTWEIN, St. Joseph, Mo.

American Bee Journal

Comb Foundation BEE - KEEPERS' SUPPLIES

It is made on new improved machines, and the Bees take to it more readily than any other Comb Foundation on the market.

Dittmer makes a Specialty of
Working Your Wax into Comb Foundation for You.

Our Wax Circular and Bee-Supply Price-List Free upon application.

Write us your wants—it is no trouble to us to answer letters.

Gus Dittmer Company, - Augusta, Wisconsin.



Mr. Bee-Man

We carry in stock the well-known
**Lewis Beeware, Bingham
Smokers, Dadant's Founda-
tion,** or Anything the Bee-Keeper may
need. **Beeswax Wanted.** Catalog Free.



The C. M. Scott Co., 1004 E. Wash. St. Indianapolis, Ind.

Bee-Keeping and Poultry-Raising

Combined, can be made very profitable. A knowledge of the subject, which embraces all the latest and up-to-date information and interesting reading, can be found by reading the American Bee Journal and

The National Poultry Journal

which is published monthly; illustrates and describes how many successful poultry keepers make a good profit from their poultry. Subscription price, 50c the year, or

Four Months' Trial for 10c.

Address,

The National Poultry Journal, Business Office, Elkton, Va.



The Billion Dollar Hen

Yes, that is just where the chicken of today stands, and great fortunes are being made each year with only a few hens and a small piece of idle ground.

But You Must Know How.

The American Hen Magazine is the "A B C and X Y Z in Poultry." It is a poultry magazine with a regular department devoted to Fruit an Bees, and gives the Secrets of Poultrydom in plain language.

Price 25 cents a year. Descriptive Circular Free.

American Hen Magazine, Council Bluffs, Iowa.

Increase Your Honey Crop



By introducing some of OUR

Famous Honey-Queens. Some of our Colonies produced 250 lbs. of Surplus Honey the past season. No better bees in the World.

Will sell Queens the following prices, May to Nov.: Untested Queen, \$1.00; 6 for \$5.50. Tested, \$1.50; 6, \$8.50. BREEDERS, \$5.00 to \$10.00 each. 25 years' experience in Queen-Rearing.

Fred Leininger & Son,

2Atf

DELPHOS, OHIO.

Early Queens and Late Queens

Bred from pure 3 and 5 banded and Golden Italians. All queens are reared in strong colonies and mated in four-frame nuclei. All orders filled promptly.

Untested....\$1.00; six, \$4.50; twelve, \$8.00
Tested.....1.50; 7.50; 13.50

Breeders, \$3.00. Three-frame nuclei, \$3.00, with price of queen wanted added. Discounts for quantity. Send all Money Orders to Apalachicola, Fla. 4Atf

A. B. MARCHANT, Sumatra, Fla.

P. S.—Write me for a good proposition on bee-keeping, to the right party.

J. E. Hand

The Veteran Queen-Specialist

WILL begin the season of 1911 with greatly improved facilities for rearing the choicest queens.

Our queens are not only large, vigorous, handsome, and prolific, but by reason of a judicious system of line breeding they have the power to transmit inherent tendencies of a highly desirable nature, such as hardiness, gentleness, and industry, as well as uniformity of marking, which makes them especially valuable as breeders. Every queen is warranted to produce uniformly marked bees of superior honey-gathering qualities. Don't take chances. Get the real thing. Warranted, \$1.00; six, \$5.00; dozen, \$9.00. Tested, \$1.25. Breeders, \$5.00. Half pound of bees, no queen, \$1.00. Three (L.) frame nucleus, no queen, \$3.25. No selection, therefore no culls, and a square deal for all. Valuable information free for your address.

J. E. HAND,

Birmingham, Ohio

Superior Golden Queens Standard Breed

That have a record of 256 pounds of honey per colony. Gentle to handle, and Beautiful in Color; as hardy as any Strain or Race of Bees, and almost Non-Swarming. We handle them without gloves or veil, and but little smoke.

Untested, \$1.25; 6 for \$6.00; 12 for \$10.00.

No disease.

If you want to know more about them, write us. All tested Queens sold until in June, then we will have them.

T. S. HALL,

Talking Rock, Pickens Co., Ga.

HONEY AND BEESWAX

No. 1 white comb honey, per case of 24 sections, \$3.15; No. 1 light amber, \$2.03; No. 2, \$2.70; partly candied, \$2.40. White extracted, 9@10c per lb.; light amber, 8½@9c. We have no amber extracted, and are in the market for some. For clean yellow beeswax we pay 26c cash, or 28c in trade.

THE COLO. HONEY-PRODUCERS' ASS'N.
F. Rauchfuss, Mgr.

Langstroth on the Honey-Bee

Revised by Dadant. Latest Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. Bound in substantial cloth, and has nearly 600 pages. Revised by that large, practical bee-keeper, so well known to all bee-dom—Mr. C. P. Dadant. Each topic is clearly and thoroughly explained, so that by following the instructions of this book one can not fail to be wonderfully helped on the way to success with bees.

We mail the book for \$1.20, or club it with the American Bee Journal for one year—both for \$2.00. This is indeed a splendid chance to get a grand bee-book for a very little money.

GEORGE W. YORK & CO.
CHICAGO, ILL.

CHICAGO, May 23.—There is practically no trade in honey of any kind at present, the extracted grades being exhausted that are suitable for table purposes, as also the choice to fancy grades of comb. A little remnant of amber remains. Prices are difficult to determine in the absence of supply. Beeswax is steady at 32c for clean and of good color.
R. A. BURNETT & Co.

INDIANAPOLIS, May 23.—The local supply of honey in the stores is almost exhausted. Indications are that the demand for new crop will be good, especially for best grades. There can be no established scale of prices until crop-reports come in. Beeswax is in excellent demand, and producers are being paid 29c cash, or 31c in trade.
WALTER S. POWDER.

CINCINNATI, May 23.—The market on comb honey is about exhausted. There is as yet no new white extracted honey arrived, and it is hard to tell what new honey will bring. We are offering water-white honey put up in 60-lb. cans at 10c a pound, but look for lower prices for the coming season. Beeswax is in good demand at \$33 per 100 pounds.

The above are our selling prices, not what we are paying.
C. H. W. WEBER & Co.

CINCINNATI, May 23.—The public is now waiting for new honey, consequently the demand for what is on the market is very slow. Comb honey is all cleaned up, and we are looking forward to a good demand for new honey. It will be on the market within the next two weeks. We are still selling the dark amber honey in barrels from 6@7c, according to quality and quantity purchased;

table honey from 8@10c in 60-lb. cans, two in a box. We are paying for strictly choice bright yellow beeswax 30c a pound, or 33c in trade.
THE FRED W. MUTH CO.

KANSAS CITY, Mo., May 23.—The supply of both comb and extracted honey is very light, and the demand is light. We quote: No. 1 white comb, 24-section cases, per case, \$3.25; amber, No. 2, \$2.75@3.00. Extracted, white, per lb., 8½@9c; amber, 7@7½c. Beeswax, 25@28c.
C. C. CLEMONS PRODUCE CO.

NEW YORK, May 23.—We have nothing new to report, conditions remaining about the same all along the line. We have no new crop yet from the South, but expect to receive same within the next two or three weeks. Beeswax is quiet at from 20@31c per pound.
HILDRETH & SEGELKEN.

BOSTON, May 24.—Fancy and No. 1 white comb honey, 14@15c. Fancy white extracted, 11@12c. Beeswax, 30c. BLAKE-LEE CO.

ZANESVILLE, OHIO, May 24.—The demand for honey seems to be about normal. There are no offerings now of last season's crop, and it is yet too early for the appearance of this season's yield of clover, which is what this market generally demands. Wholesale prices on best grades of comb, 17@18c; extracted, 11@12c.

Producers are being paid for beeswax 28c cash, or 30@31c in exchange for merchandise.
EDMUND W. PEIRCE.

DENVER, May 24.—With the coming in of fresh fruit the demand for honey slackens. We make the following jobbing quotations

All Roads Lead to Cincinnati

"Deal with Weber & Co. at the Service Center"

The supplies you have on hand are worth many times as much to you as those you must order and wait for when the honey-flow is on. We know how busy you are in making final preparations for the big year we all expect; but try not to overlook the importance of getting your orders for sections, foundation, extra hives, supers, etc., in RIGHT NOW. You will be pleased with our QUICK DELIVERIES and with the quality, and we will give your order our best possible attention, no matter when it comes; but we urge you to get in a good stock of sections and foundation NOW. Let us tell you about these goods.

SECTIONS

We handle the best grade of sections made. If you want a hundred or ten thousand, or a hundred thousand, we can fill your order promptly with goods we will guarantee to please. You may judge of the popularity of the sections we sell when we tell you that the manufacturers make upward of twenty-five million of them every season.

FOUNDATION

There is nothing more important to the up-to-date bee-keeper than to have foundation just when he needs it, and of the best quality. We sell nothing but Root's Weed-process Foundation, the recognized standard of the world. The bees appreciate the good points of this foundation, and every bee-keeper knows that it is the best. All grades and sizes constantly on hand. A pound or a ton, just as you like.

There are other items of interest too numerous to mention. We can furnish anything you need in the bee-keepers' supply line, and get it to you so promptly that the goods will reach you just when you need them most. No order is too small for our attention, and none so large that we can not handle it to your satisfaction. Send US your hurry orders and allow us to demonstrate what we can do for you. Catalog on request.

Poultry Supplies

A special catalog of these Goods, which we will gladly furnish free upon request.

C. H. W. Weber & Co., 2146 Central Ave., Cincinnati, Ohio.

"falcon" CHICAGO HOUSE

The **ONLY** Bee-Supply House in the business section of Chicago.

TIME is money. We can save you time from our centrally located House. Our close proximity to all the railroads puts us in pre-eminent position to give you **fast service**. Chicago trains honey-comb the whole surrounding territory. **Order "falcon" Bee-Supplies This Year.**

Let us prove to you their superiority, not only in workmanship but material as well. Every part fits so well, it is a pleasure to assemble them. We have a full stock of everything for the bee-keeper—Hives, Supers, Sections, Foundation, Smokers, Extractors, Shipping-Cases, etc.

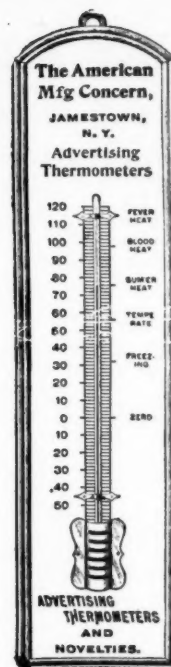
If you come to Chicago, call at our office. Our warehouse is immediately convenient, and you will take pleasure in looking over our nice, clean stock, fresh from the "falcon" saws. Mr. George W. York, editor of the American Bee Journal, is our office manager. and it is a treat to talk bees to one so thoroughly conversant with the subject and the needs of the bee-keeper.

DON'T FORGET THE PLACE—

W. T. FALCONER MFG. CO.

117 North Jefferson St.,

The next street to the New Northwestern Depot, **CHICAGO, ILL.**



Dewey Foundation Fastener

One
of
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W. T. FALCONER MFG. CO., Chicago, Ill.
Dear Sirs:—Will you please forward me samples of "Falcon" foundation? I have one of your Dewey Foundation Fasteners which I ordered from your New York house, and would not part with same for \$10 if I could not have another like it. They work as easy and perfect as a clock.

Yours for success,

P. A. NORMAN.

Our three new 1911 carload distributing houses give Dewey Fasteners with orders for three thousand or more "Falcon" sections.



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Write to the nearest one to you, and they will tell you about the Dewey Foundation Fasteners and the FALCON Thermometers which they send free with orders.

W. T. FALCONER MFG. CO.

117 N. Jefferson St., **CHICAGO, ILL.**

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